

# STATISTICAL MEMOIR

TO

ACCOMPANY THE SURVEY .

OF THE

# NEILGHERRY MOUNTAINS.

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BY

CAPTAIN JOHN OUCHTERLONY,

Madras Engineers.

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THE Neilgherries, properly so called, comprise two distinct tracts of mountainous country; the one called the Neilgherries, or "Neilgherries Proper," and the other the "Koondahs." The survey of the latter yet remains to be completed, and hence the statistical data here recorded, relate exclusively to the former region.

The arrangement is in accordance with the formula given in para. 5 of Despatch No. 6, of 1846, from the Hon'ble Court to the Governor General in the Financial Department.

The area of the plateau of the Neilgherries, as defined on the N. W., North, East and South by the crest of the mass of mountains, and on the S. W. by the outline of the "Koondahs," is found by the present survey to comprise 268,494 square acres in its geographical extent; but owing to the ceaseless undulations prevailing over the whole surface, a far greater amount of land is actually available for cultivation.

Of this quantity only 23,772 acres have been brought under cultivation, leaving 244,722 acres either entirely waste or appropriated for grazing cattle by the various Hill tribes.

The geological formation of the Neilgherries is of the primitive igneous order, the mass or nucleus of the mountains being granite, frequently passing into sienite.

In every part of the Hills innumerable dykes or channels of basaltic rock, hornblende, quartz, and other minerals, commonly found in a similar relation to rocks of the primitive class, intersect the granite, in some instances of considerable magnitude, but more commonly broken into small ramified branches or veins.

In the Koondahs trap rock is more extensively developed, being often found in that part of the district capping the hills and spreading out to a considerable extent, but a description of the geology of the Koondahs does not enter into this memoir.

Hornblende rock is also found to occur in some abundance in various parts of the Hills, passing occasionally into hornblende, slate, and porphyritic hornblende, having garnets imbedded. This rock is highly ferruginous, and decomposes into a stiff red clay, which forms extensive beds underlying the soil in many parts of the Hills. It intersects the granite and sienite in deep channels or dykes, which, having a greater tendency to decomposition than those rocks, frequently occasion chasms in which water lodging and weaning away the sides, becomes the cause of the disruption of large masses, which are continually parting from the parent rock, especially after heavy rains.

No stratified rocks make their appearance in any part of this district, except at the N. E. angle of the plateau, where, on descending towards the plains, beds of gneiss are met with, but so torn and distorted as to render it almost impossible to derive from their occurrence any geological data of value. The run of the beds, however, may be pronounced about North and South, the dip being to the East at an angle varying between  $30^{\circ}$  to  $60^{\circ}$ . Near the junction with the granite which forms the country in the neighbourhood, the gneiss is much altered, and veins of igneous rock perforate it in all directions.

I examined this part of the district with much interest, both on account of the highly metalliferous character which this rock usually possesses in other countries, especially as in Saxony its occurrence is marked by the same accompaniments as I have described, and in the faint hope that beds of primary limestone might be found to occur in the vicinity. This mineral, which is not found in any part of the mountains, being much needed both for architectural and agricultural purposes.

With the exception of this gneiss formation, the whole of this mountain tract is of primitive igneous structure, granite and sienite alternately appearing at the base of the Hills, while at the same time hornblende rock, basalt, and occasionally greenstone, are found protruding in masses and channels so extensively, as often to give their peculiar character to the rock formation for considerable distances.

Metalliferous deposits do unquestionably exist on the Neilgherries. Ores of copper (pyrites) and lead (galena) have been found imbedded in quartz, but unfortunately not *in situ*, being merely portions of blocks of stone found in the walls of some "Cairns" or ancient places of sepulture, in the neighbourhood of Nunjenaad, not far from the foot of the Koondahs. The circumstance was brought to the notice of Government some time since (I believe by Dr. Burrell and Captain Congreve,) when I was directed to co-operate with the latter officer in instituting an inquiry as to the origin of these ore blocks. Captain Congreve, however, shortly after left the Hills, and though I have taken advantage of every opportunity which offered to pursue the desired object, I am sorry to say my efforts have not been crowned with

success ; for although many large channels of quartz occur in the neighbourhood of the spot where the blocks were found, and all running in a true metalliferous direction, East and West, I have not been able, though I have traced them a long distance and crossed their backs in various parts, to detect in any of them a trace of ore, or any of those peculiar indications on the surface which would elsewhere characterize a vein or lode bearing ores of either copper or lead.

The Todas dwelling near the spot declare their belief that the blocks were brought from the "Koondahs," and although this can be little better than surmise, I should certainly say, from the aspect of that range of mountains, that deposits of ore are more likely to be found in it than in the Neilgherries. It bears much more the look of a mining country ; and the violent igneous action which has evidently prevailed amongst its rocks after their formation, favors the expectation that metalliferous deposits will be found there, if they exist in quantity anywhere about this mountainous district.

The black oxide of manganese is found about the Hills in many places, existing in small veins and retiform deposits ; but I do not think it could be profitably worked, as the continuance of a supply in a particular spot could not be depended upon, and it could not moreover be brought into any home market at a sufficiently cheap rate to compete with other ores.

Laterite is also found in various parts of the Neilgherries, generally in an advanced stage of decomposition, forming a lithomargic clay which underlies the soil of many tracts of land. I observe the existence of laterite most frequently where the sienite contains much hornblende, which favors the belief that it is the result of decomposition of the primitive rock, hastened by the action of the atmosphere upon its excess of ferruginous matter. A bed of this rock occurs near Kaitee sufficiently indurated to be fit for quarrying for building purposes, but no use is made of it by settlers, owing to its being more costly than bricks.

Ores of iron are met with in many parts of the Neilgherries, occurring in small veins and disseminated through the mass of the rock enclosing it, but nowhere (that I have seen) in sufficient quantity to be worth working.

A great many varieties of ores exist, more interesting to the mineralogist than to the statistical recorder.

Hematites, specular iron ore, micaceous iron ore, magnetic iron ore, and iron pyrites, are all found in insignificant specimens.

Pebbles of agate and semi-opal are occasionally to be met with in mountain streams after heavy rain, and would, I doubt not, with corundum, be found more abundant if persons who had time to bestow in the pursuit were to search for them.



There is another mineral which occurs in some abundance on the Neilgherries, which might, I think, especially in the hands of European settlers, be turned to some economical use.

It is a decomposed feldspar, or "kavlin," of which very tolerable earthen-ware might be manufactured.

The soil of these mountains, speaking of course chiefly of the plateau, is for the most part exceedingly rich and productive, a circumstance for which the observer would not be prepared on witnessing the granitic or sienitic base upon which it rests ; since it is usually seen that granitic districts are bleak and barren, owing to the resistance to decomposition offered by the silicious materials of which it consists.

This advantageous contrariety may, perhaps, be accounted for by referring the formation of so much rich soil to the existence of the numerous dykes of rock, whose decomposition is more favorable to its production, especially those of trap and hornblende, the decomposed particles of which mixing with the quartzose and clayey products of the granite, result in the formation of a soil peculiarly adapted for cultivation.

The great mass of the Hills also has evidently been under grass, and undisturbed by the plough or the mamotie for ages, and as the frosts which occur at the close and beginning of the year in most parts, kill the grass down to the roots, all this decomposed vegetable matter, washed in by the succeeding rains, and mixing with the sub-soil, continues, and has continued, season after season, to increase its richness, and cause it to penetrate further and further into the poorer sub-soil, until the extraordinary depth of rich black mould, which is often observed in the cuttings of a new road, is produced.

The finest patches of land are naturally found on the lower slopes or second steppes, in situations where the conformation of the country has favored the accumulation of soil washed from the Hills above, and especially where forests have aided to retain that soil from further denudation by their roots, and have for ages nourished it by their leaves. The chief agricultural tribe on the Hills, the Burghers, seem well aware of this, and the consequence is, that in all parts where they cultivate, the face of the country is entirely

clear of wood. The chief defect of the soil of this district is the absence of lime, but a very minute quantity of which enters into the composition of the greater part of that under general cultivation at the present time, and as it is too costly an article to be brought up from the plains to be applied as a dressing to the land, considerable deterioration must be going on in its productive capacity.

I have remarked that the finest fields are those which are situated near any considerable mass of hornblende rock, and hence it is to be inferred that the superiority of the soil is

due to the lime which it receives from its decomposition. Specimens of this hornblende reduced to powder and digested in dilute nitric acid, give a copious precipitate with oxalate of ammonia, showing, upon estimate (for I had not the means of collecting and weighing the precipitate), a proportion of at least 8 to 9 per cent. of lime entering into the composition of the rock.

The extensive and numerous swamps which occur on the Neilgherries also, when drained, furnish most valuable soil, either for cultivation *per se* or for top-dressing for poor land. But in this latter form it is never used by the Hill cultivators, who are very backward in the knowledge of the uses and properties of particular manures, as will be treated of under an ensuing head, *viz.* "Modes of Cultivation."

The Neilgherry Mountains constitute one of those singular features presented in the physical geography of Southern India, of comparatively isolated masses upreared amidst the vast plains which extend over the surface of the country, pointing either to foci or points of ancient volcanic eruption by which they have been formed, or to evidences of the wearing agency which has reduced the surrounding tracts to their present remarkably uniform level state; while mountain masses, forming a core of tougher substance, and of material less prone to decomposition, have resisted the corroding action, and have been thus left in the form of isolated and mural precipices towering above the surrounding country.

The summit or plateau of these mountains presents a most varied and diversified aspect. Although the land extends over its limits in ceaseless undulations, approaching in no instance to the character of a champagne country, and frequently breaking into lofty ridges and abrupt rocky eminences, it may yet, speaking in general terms, be pronounced smooth and practicable to a degree, seldom indeed, I believe in no instance, observed in any of the mountain tracts of equal elevation which occur in the Continent of India.

On all sides, the descent to the plains is sudden and abrupt; the average fall from the crest to the general level below being about 6,000 feet on all sides, save the north, where the base of the mountains rests upon the elevated land of Wynaad and Mysore, which, standing between 2,000 and 3,000 feet above the level of the sea, form as it were a steppe, by which the main fall towards the sea is broken. From both of these elevated tracts the Neilgherries are separated by a broad and extensive valley, through which the Moyaar river flows after descending from the Hills by a fall at Neddiwattum in the north-west angle of the plateau; and the isolation of this mountain territory would be complete, but for a singular sharp and precipitous ridge of granite peaks, which project out from the base of a remarkable cone, called Yellamullay on the western crest of the range, and taking a west by north course towards the coast, unites itself with the Hills popularly called the "Western Ghauts."

In the S. W. angle of the Neilgherries, a singular mass of mountains rises, called the Koondahs, which, though in point of fact a portion of the great hilly region, are so completely separated from the "Neilgherries Proper," that they merit the distinct appellation they have received.

Spurs from this secondary range run to the southward to a considerable extent, almost as far as the Ponany river, and it is in the innumerable valleys bounded by these ridges, that the magnificent virgin (forest) land is found of which I made mention in a former memoir, and which, as being eminently well-suited for the purposes of coffee and other cultivation, will, I feel convinced, shortly be the means of rendering this district one of the most valuable and important under the Presidency.

The Neilgherries, or rather the plateau formed by their summits, are by no means densely wooded, the forests occurring in distinct and singularly isolated patches, in hollows, on slopes, and sometimes on the very apex of a lofty hill, becoming luxuriant and extensive only when they approach the crests of the mountains and run along the valleys into the plains below. This absence of forest in a region in which, from its position between the tropics, from the abundance of moisture, and from the great depth and richness of the soil, the utmost luxuriance in this respect would be looked for, is very remarkable, and leads me to conclude that vast tracts of primeval forest land must have been cleared to make room for cultivation at no very distant period. This belief is strengthened by the fact that in all parts of the Hills which are exclusively the resort of Todars, such as the elevated land to the north and west of the Pykara river, the whole of the Koondahs, the north-eastern portion of the plateau, called Kodanaad, and other tracts where no cultivation is at present carried on, extensive forests are found.

The principal internal range on the Neilgherries is a lofty mass, situated in the heart of the district, and running north-west and south-east, the great mountain called "Dodabetta," the highest on the plateau, (being 8,610 feet above the level of the sea,) being the apex, and from it all the minor ridges and spurs which form the undulating land of the Neilgherries may be said to take their rise, with the exception of the Koondahs, which have a distinct origin, and of a singular elevated tract forming the north-west portion of the Hills, which is distinctly connected with the Koondahs by a narrow ridge under Makoorty Peak. From the Dodabetta range to the eastern foot of the Koondahs the land falls continuously, when these mountains, abruptly rising, obtain an elevation very little below that of Dodabetta itself.

Owing to the great elevation at which the inhabited summit of the Neilgherries stands, and the consequent rarefaction of its atmosphere, aided doubtless in some degree by the beneficial influence of the luxuriant vegetation which clothes them, the district, although distant only 11 degrees from the Equator, enjoys a climate now famed for its great salubrity and remarkable evenness in its seasons,

Atmosphere and Climate.

Elevation of the Station of	
Ootacamund above the level of the	
sea ... ..	7,312 feet.
Ditto of Kotergherry ...	6,100 "
Ditto of Coonoor ...	5,994 "

with a temperature which falls in the coldest month of the year to near freezing point, and seldom in the hottest reaches 75° in the shade. In stating this I of course refer to the general circumstances of temperature which prevail, for seasons have

of course occurred during which, from particular atmospheric causes, the mercury may have risen occasionally above this estimate.

The coldest season is during the months of December and January, and the hottest about June and July, though this latter season is not so certain, depending mainly upon the character and time of setting in of the rainy or S. W. monsoon. The hottest period of the day is about 2 o'clock or 2h. 40m. P. M., and the extreme range of temperature from sunrise to that time averages most commonly 24° throughout the year. The variation is of course the greatest at the time of frost, *viz.* January and December, when the extreme radiation which goes on during clear nights produces excessive cold towards sunrise, when the sun's rays shining with great fierceness through the rarefied atmosphere, speedily restore heat to the earth, and the temperature of the air rises in proportion. Similar causes, reversed in their action, necessarily produce sudden and great cold after sunset, rendering the climate at this season (and indeed at all seasons more or less,) one in which the most healthy residents, and especially those who have recently come under its influence, stand in need of caution in their mode of encountering its vicissitudes. For the reasons alluded to, I would venture to remark that very early and very late parades, according to the practice of the plains, will be found injurious to European troops located on these Hills, and especially to those men whose constitutions have been worn by long residence in a tropical climate.

The chief station, Ootacamund, from its superior elevation (7,300 feet above the level of the sea) is more exposed to this unfavorable action than the two minor stations, Coonoor and Kotergherry, which are each 6,000 feet above the level of the sea : although these latter are by no means exempt from the same influence, especially during the cold season, as will be seen by the Tables appended to this memoir.

A very great advantage enjoyed by the Neilgherries as a sanitarium exists in the means which are afforded to an invalid to select the peculiar kind of climate which best suits the malady under which he is suffering by the existence of three settlements, each under medical charge, situated in different parts of the range, each having a different aspect, and each a climate peculiar to itself, that of Ootacamund being the coldest, but most damp, Kotergherry the next in the scale, and that of Coonoor the warmest.

Thus an invalid whose habits or state of constitution render the change from the torrid heat of the plains to the penetrating cold of Ootacamund too great and sudden, has the opportunity and option of acclimatizing himself at either of the minor stations before exposing himself to the vicissitudes of climate which await him on the higher level.

The climate of the Jakatalla Valley, which I had occasion to recommend to the Marquis of Tweeddale, for the site of the projected barracks for a European Regiment of Infantry, and which has, I believe, been approved of by Government, will, I think, be found a happy medium between those of the chief and lesser stations. It is well sheltered from the dry cutting northerly winds, which cause so much sickness in Ootacamund during the months of March and April, by the high Dodabetta range, which bounds the valley to the northward; and the rains of the S. W. monsoon, though they of course visit this part of the Hills, are by no means so incessant, or accompanied by so much driving mist as is experienced during the same season at Ootacamund.

This monsoon (the S. W.) sets in on the Hills during the month of June, and is ushered in on the western side, including Ootacamund, by heavy rain and violent gales of wind. The station of Coonoor gets the monsoon at the same time, but with less rigor, owing to the clouds, which come charged with rain from the Westward, being attracted to the earth, and induced to discharge their contents by the opposition offered to their flight by the high spurs which run out from the Dodabetta range, and interpose between the W. and Coonoor. The Kotergherry and Coonoor more sheltered than Ootacamund. Kotergherry Station is also very favorably protected from the violence of the S. W. monsoon by the Dodabetta range itself, which stands out like a huge wall to screen it.

The average fall of rain (the chief part of which occurs on the Hills,) during this monsoon cannot be called excessive, especially when compared with the visitations in this respect experienced in the neighbouring province of Malabar.

The constant shifting of abode from spot to spot, which the duty of conducting a survey necessarily entails, has prevented me from keeping a register of the actual amount which has fallen in every month of the year, except in 1847; but from such observations as have been made when opportunity offered, I am led to believe that about 60 inches is a fair quantity to assign as the average fall of rain throughout one year at Ootacamund, 50 inches at Kotergherry, and 55 inches at Coonoor.

The N. E. monsoon sets in generally in the beginning of October, and is often accompanied by rain, more or less, all over the Hills, but especially on the east side, and at Kotergherry, which from its position is exposed directly to its force.

The month of December is generally very stormy, and often fatal to a large extent to the lives of the Hill cattle and to the bullocks and other beasts of burthen employed to bring produce from the plains. The cold easterly wind blowing through the light rain which is continually falling, and striking upon the wetted skins of the animals, produces a degree of intense cold, which soon destroys them, and by these means Cattle die off during the rainy monsoon. serious inroads are yearly made upon the herds of the Hill inhabitants, by whom their loss is not readily replaced. Annexed to this memoir are

various Tables extracted from the meteorological register kept in the Survey Office at Ootacamund and Kotergherry, which will show all particulars regarding the changes of temperature, the fluctuations and oscillation of the mercury in the Barometer, as shown at the hours of maximum and minimum pressure, (9h. 50 A. M. and 4 P. M.,) temperature of wet bulb, direction of the wind, aspect of the sky, &c.

The Neilgherries are occasionally, but by no means frequently, visited by violent storms or hurricanes, so rarely indeed, as to excite surprise and speculation as to the cause of this exemption when its isolated and exposed situation in the peninsula is considered. Upon this and other points of interest connected with the meteorology of these Hills, much light will doubtless be thrown by the observations now regularly conducted in an Observatory recently erected on Dodabetta, under the auspices of Mr. Taylor, the Hon'ble Company's Astronomer at Madras, in which an instrument for measuring the force of the wind and other valuable adjuncts to a Meteorological Observatory have been placed.

During the prevalence of the S. W. Monsoon the atmosphere is almost continuously charged more or less with dense mist, enveloping chiefly the mountain tops, but descending into the inhabited valleys as the warmth of the day passes, and spreading in heavy and impalpable fog in all directions. When not under this influence, the atmosphere overhanging these mountains is brilliantly clear and cloudless, and especially so on the eastern side of the range.

The resources of this highly-favored region are as diversified and valuable as they appear easy of attainment, and comparatively inexhaustible.

Productions.

With a climate and soil such as have been described, great productive powers in the vegetable kingdom, and a proportionately high development of them, would naturally be looked for. That the latter is wanting to a lamentable degree is to be accounted for by the wretched system of husbandry pursued by the agricultural tribes who have settled upon the Neilgherries, as also possibly in some degree by the absence of that encouragement which would be produced by the institution of some channel through which the products of their industry might reach a ready, certain, and ever-demanding market.

I commence the long list of productions which the Neilgherries are capable of supplying with wheat, as one of the most important, and as one, moreover, which the Hon'ble Court of Directors appear at the present time to be much interested in, collecting data regarding from all districts in India capable of producing it.

Wheat.

In making up the returns of the gross quantities of grains of all sorts produced in the District, I have taken the totals of each from the Seebundy accounts of 1847, or Fuslee 1257.

From these it appears that in 1847, 70 "vellums" of land were cultivated for wheat, each vellum producing on the average 400 "kolagums." This "kolagum," which is a measure peculiar to the Hill tribes, contains 226 cubic inches, and hence the quantity produced was

	3,000	...	...	...	...	...	...	Bushels
or	375	...	...	...	...	...	...	Quarters.

The weight of a kolagum of average wheat (husked) is I find 7 lbs.; hence the *bushel* of Neilgherry wheat weighs 68·6 lbs. or the Quarter 548·8 lbs.  
 Weight of a Bushel. A vellum of land is equivalent to 2 cawnies, 21 grounds, and 864 square feet. The total quantity of land cultivated for wheat at the present time is

	202 Cawnies,
or	267 Acres.

Hence the produce is 14·7 bushels *per cawny*.  
 or 11·12 bushels *per acre*.

The return in moderately good land cultivated for wheat is 40 to 1; or 40 bushels reaped for 1 bushel sown.

That the quantity of wheat at present produced on the Neilgherries could be very greatly increased, there cannot be a doubt, provided a better system of husbandry were introduced, and better seed imported from Europe and distributed amongst the agricultural tribes; and as recent distressing circumstances in Great Britain appear to have directed the attention of the Home Government to Colonies which are thought capable of producing this grain in sufficient quantity to assist in relieving the mother country from her present hazardous position of dependence upon foreign states for her supply, I shall venture to offer a few further remarks before closing my notice of this important item in the chapter of natural productions.

The whole of the Hill district, including the Koondah mountains, is eminently well suited, in point both of soil and climate, for the production of wheat; but as the last mentioned tract is not yet surveyed, it must at present be lost sight of, although I feel confident it will be found on examination to furnish a very important addition to the gross amount of land estimated as suitable for the cultivation treated of, and which at present lies totally waste and useless.

The quantity of land thus lost to the State, I estimate to amount to no less than ... .. 200,000 Acres.

As is shown by the following Statement:—

Total content of the geographical surface of the Neilgherries, .....	268,494
Of this quantity there are now under cultivation, including lands lying fallow ... ..	31,434
Pasturage to be reserved for the cattle of the Todars at the exaggerated rate of 200 acres per 100 head (less than 40 per 100 being allowed by the Revenue authorities in the calculation for assessment,) for an average of 2,000 head of buffaloes will be,...	4,000
Pasturage to be reserved for the cattle of the Burghers, consisting of buffaloes and bullocks, averaging 8,000 head, at acres 100 per 100 head, .....	8,000
Land occupied by the Cantonment of Ootacamund, future barracks, roads, &c., ... ..	6,000
Village sites, sacred groves, &c., .....	2,060
Tracts of rocky ground, morasses, and other land not immediately fit for cultivation (although these might well be considered as compensated by the gain of surface introduced through the undulations of the land,)...	17,000
Total to deduct, .....	68,494
And there is a remainder of .....	200,000

acres entirely unoccupied and waste, being either covered with forest, or lying under grass not required for pasturage.

Under a better system of cultivation also it would not be necessary to suffer so large a proportion of the Burghers cultivated land to lie fallow at one time, as is at present in that condition, amounting in round numbers to 17,000 acres out of a total of 31,500 acres of cleared arable land.

Of the forest land every acre is of course peculiarly well suited for wheat, and being virgin soil it should produce, under proper management, large crops of the very finest grain.

The same may be said of swamps when drained; but as potatoes are found to thrive well in the soil which their drainage produces, such land in a farm would naturally be reserved for stock produce, and an allowance has therefore been made for this in the Estimate.



Making, however, exaggerated deductions on all accounts, there yet remain no less than 200,000 acres of unallotted and unemployed land, of which, at the very lowest estimate, one-half, or 100,000 acres, may be taken as fit for the production of wheat under a proper system of husbandry, allowing a sufficiency of well-prepared manure, an occasional dressing of lime, and exercising proper judgment in allowing it to lie fallow or changing crops according to its condition and composition of soil.

It has been already stated that the Burghers obtain from their wheat lands a quantity of grain equivalent to  $11\frac{1}{2}$  bushels per acre, but as the depth to which they plough their fields never exceeds 7 inches, and for the most part is barely 6, and as they give them only the most meagre allowance of sun-dried and exhausted manure, never exceeding (as far as I have been able to ascertain by counting the baskets brought and measuring spaces of land dressed with it,) half a ton per acre, and this not ploughed well into the ground, but merely scraped into the surface furrows, and as they never supply the land with what from the composition of the soil it so much needs, *viz.* lime, it may be safely assumed that under a proper system of tillage this amount of produce could be at least trebled, or at a very low estimate, 4 quarters could be obtained from one acre.

I may therefore safely affirm that this District is capable of furnishing for export to Europe from 4 to 500,000 quarters of wheat, of a quality far superior to that which is at present raised, and at a cost sufficiently low (the distance to the nearest shipping port being only 110 miles, 36 miles of which are performed by water,) to admit of large profits being realized by the growers, even when the price in England is so low as sixty-five (65) shillings per quarter.

The following is an estimate of the cost to the Burghers of the cultivation of wheat per English acre, reduced from the account per vullum (or bullah). Its items have been ascertained with as much exactness as circumstances and the deceitful character of this people, who seldom adhere to the truth in any of their statements, have admitted of.

#### ESTIMATE.

*Ploughing* (the land being cleared already of jungle).

5 ploughs in 3 days plough 1 bullah of land, each plough having 1 pair of bullocks and 1 driver. The keep of the bullocks costs nothing, as they get nothing but grazing. The estimate is therefore restricted to the drivers, *viz.* 15 men per bullah or per acre ( $3\frac{1}{2}$  acres being equal to 1 bullah.)

4 ploughmen, at 2 as. each,.....	Rs.	0	8	0
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To collect the large weeds or grass and burn them, 2 women, at 1 anna, .....	„	0	2	0
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*Bringing and spreading manure.*

5 basketsful, 1 man, at 2 as.,.....	„	0	2	0
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Sowing seed and turning the soil, 5 ploughs to 1 bullah and 6 men, or per acre $1\frac{1}{2}$ men, at 2 as.,.....	„	0	3	0
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Carried forward, .....		0	15	0
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Brought forward,	.....	.....	.....	Rs.	0	15	0
Seed, 2½ kolagums, @ 2 annas and 8 pie,.....	.....	.....	.....	„	0	7	0
Repairing fences if in a jungly neighbourhood, and clearing water channels to carry off rain, &c., 1 man, @ 2 annas, ...	„	0	2	0			
Reaping and thrashing : the expense of the first is more than covered by the straw, and the latter costs nothing, as it is done by the bullocks which are driven round and round a post till the grain is all trod out.							
Assessment, the highest rate,	.....	.....	.....	„	0	14	9

or 5 shillings per acre, Rs. 2 6 9

*Return.*

105 kolagums, which are sold on an average at 2 annas and 8 pie, .....	.....	.....	.....	.....	.....	Rs.	17	8	0
Deduct cost, .....	.....	.....	.....	.....	„	2	6	9	
Profit to the cultivator per acre,						Rs.	15	1	3

It is true that out of this we must take the “goodoo,” a tribute which they give to the Todars, and which may be considered in the light of rent for the land ; but this is not much : they profess to give one-sixth, but I have reason to believe, both from the statements of the Todars and of the Burghers themselves, that what they actually make over to these indolent people, is not above one-half of this proportion, if even so much, especially in the item of wheat, which is so profitable to them.

It may not be considered out of place to introduce here a statement of the expense of keeping horses, and of carrying on farming operations generally on the Neilgherries.

2 Plough horses (cast horses from the Artillery and Cavalry, which may be bought for Rupees 100 to 200 and which when castrated would be found to answer for all farm purposes) would require 1 horse-keeper at 7 per mensem 7

and 2 grass-cutters „ 4 „ 8

(until the farm yielded hay)

Gram, 2 seers per day for each horse 4 Seers × 30=120=7

Barley, 2 „ „ „ 4 „ × 30=120=4

Shoeing, 1 Rupee each per month 2

Halters, cumblies, medicines, &c. 1 Rupee per horse 2

Rupees, 30

or per annum Rupees 360, which is £18 per annum for 1 horse.

*Spade Husbandry.*—A cooly can dig in one working day in new meadow ground about 25 to 30 square yards one foot deep : the rate of daily pay being 2 annas.

Children are employed to weed at the rate of 1 *anna* per day.

*Lime* in an unslaked, caustic state, can be delivered on a farm at the rate of 12 annas per bullock-load of about 2 bushels.

Pay of natives employed regularly on a farm would be .....	5	Rupees per month.
Herdsmen .....	4	" "
Keepers for bullocks employed to bring supplies .....	1	" "
1 man for every 5 head ... ..	5	" "
Pay of a good carpenter... ..	8	annas a day
Ditto bricklayer .....	8	" "

Average distance from the Hills to the nearest shipping port (Calicut) by a good road 110 miles, over 40 miles of which goods can be conveyed by water.

*Bones* could be obtained for the sum expended in collecting them, and in carriage of them from the low country.

*Barley*.—Next in importance in class of productions is barley, the quantity of which raised during the past year far surpasses that of wheat. In 1847 it amounted to 1,419 "vullums" (or bullahs) of land, each vullum producing on an average 400 kolagums, making a total of

60,383 bushels,

or 7,548 quarters,

taking the Imperial bushel as before at 2,218 cubic inches

and the kolagum by my measurement at 226 " "

The barley grown on the Neilgherries is divided by the Burghers into two kinds, the first and best being "Sheemy Ganjee," or English barley, so called from its being the degenerate produce of English seed given to the head Burghers many years ago by, I believe, Mr. Sullivan, when Collector of this district; and the other "Bulley Ganjee," or Hill barley, which they describe as indigenous to the Hills.

The quality of both sorts is very poor; nor is this much to be wondered at when their defective mode of cultivation is witnessed, and the great deterioration of the grain which naturally results from the constant employment of the same seed in the same land over and over again, without any change or any attempt at the introduction of imported or mixed seed. The weight of a kolagum of ordinary barley is  $5\frac{1}{2}$  lbs. which makes that of a bushel 54 lbs. or that of a quarter 432 lbs.

The return in moderately good ground is 50 per cent. under that of wheat, being only 20 measures of crop for 1 measure of seed.

The yield per Cawny is	34.7 Bushels,
or per acre	11.12 ditto,
and the total amount of barley cultivation is in Cawnies	3,705
or in acres	4,900

Before quitting the subject of barley I cannot refrain from adverting to one immediately connected with it, and which I deem of so much importance, that although I am not sanguine in my hopes that Government may be induced by any representation made by me to institute experimental proceedings with a view to test the feasibility of the scheme, I still consider it my duty to place on record in this memoir the results of experiments which I have had favorable opportunities of making, under the impression that a time must sooner or later come when this, amongst many other valuable resources of these Hills, will be fully developed and taken advantage of.

I allude to the subject of fermented malt liquors, which can be made in the Neilgherries with the greatest facility in all the details of the process, and at a cost so trifling, as to enable the Commissariat to supply the European troops at the three stations more immediately in the vicinity of the Hills, *viz.*, Bangalore, Trichinopoly, and Cannanore, with both Ale and Porter, at a rate calculated in an extreme estimate, not exceeding 10 annas per Imperial gallon, delivered to the men from the cask in the canteen, or  $2\frac{1}{2}$  annas per Quart, equivalent to  $3\frac{1}{2}d.$  per pot.

Independent of the importance both in a moral and economic point of view of supplying to the troops a liquor, which from its goodness and cheapness will induce the majority to prefer it to ardent spirits, the subject becomes still more entitled to consideration from the advantages which must result from its successful issue, when the projected measure for the permanent location of a Regiment of European troops on the Neilgherries shall be carried out; for as the chief item in the estimate of cost is the carriage from the brewery to the station in the plains, beer will be supplied to those resident on the spot at a greatly diminished rate.

A very favorable opportunity will also be offered for bringing the project into practical operation when a Regiment is stationed on the Hills, because, amongst the men many brewers and maltsters by trade will no doubt be found; and by the practical knowledge of these men many difficulties in the details of the process, which experimentalists like myself encounter, will be speedily overcome.

An inspection of the Tables of temperature given in the appendix to this memoir will at once show that the first part of the process of the manufacture of beer, *viz.*, the conversion of barley into malt, can be carried on here as well as in any part of Great Britain; for although the range of the mercury may appear so great as to endanger the success of the process by causing the germination to proceed too rapidly, this evil can be readily averted by placing the malting

Malt.

floors in buildings with thick stone or even mud walls, covered with thatched roofs elevated considerably, so as to deflect the rays of the sun and preserve Temperature well suited for malting and fermenting. an even and low temperature throughout the day. The temperature found most suitable to malting in England is about  $60^{\circ}$  to  $62^{\circ}$ , and this degree of heat could be maintained without excess in malting sheds on these Hills throughout at least 9 months in the year.

I must observe, however, that the barley grown here is so poor in quality, so light in the grain, and containing in a given measure so large a proportion of husk in excess of what the same quantity of English barley would produce, that the malt made from it yields in the mash but a very disproportionate quantity of saccharine matter, rendering it necessary to employ raw sugar as an adjunct to produce a wort of sufficient strength. But this, which might elsewhere be considered an objection on the score of expense, is here of easy remedy, since in the immediate vicinity of the Neilgherries, viz., in Mysore, excellent sugar is manufactured in great abundance, and at a rate so low, that at this present time, February 1848, it is being sold in the bazar of Ootacamund at Rs. 3-12 annas per maund of 25lbs. weight, being equivalent to 33s. per cwt. Formerly a Sugar cheap and good. prejudice existed against the employment of sugar in the manufacture of beer, but as it is now seen that the permission to introduce it into breweries in England, which has been recently granted by the Legislature, is regarded by the public as a signal boon, it must be self-evident that, since this important article is, comparatively speaking, indigenous to the spot, cheap, excellent, and abundant, and as the climate is in all respects eminently well adapted for carrying on the process of vinous fermentation as well as that of malting, that beer and porter can, under proper management, be produced in the Neilgherries in every respect as wholesome and good as that now imported from England, and at a cost less by one-half, even including cartage to the station where it is to be consumed.

I beg leave to observe that in advancing these remarks I do not base my expectations and assurances on mere surmise or theoretical views of the subject, but upon the results of actual experience, as I have now brewed several casks of beer without a single failure in the principal parts of the process, viz., malting, fermentation, and firing, while its quality has been much approved of by many persons who have tasted it, amongst whom I may enumerate Mr. Drury, the Senior Member of the Board of Revenue, Capt. Bell, Secretary to the Board, Major General Kennett, Lord Gifford, General Gibson, with many others.

In consequence of the success which attended my early experiments, in conducting which I employed malt prepared by myself from Hill barley with hops and dried yeast imported from England, my confidence in the success of the scheme if entered into by Government, I addressed a letter to the Commissary General upon the subject, communicating such details as seemed of interest, and offering to carry on further trials on a small scale at my own expense if a copper could be supplied to me temporarily on indent from the Commissariat stores. I also sent samples of some beer which I had brewed, but which had

an unpleasant taste communicated to it owing to my having employed "goor," or "raw jag-gery," in the brewing in place of refined sugar, without taking the precaution of cleansing it from the dirt and gummy matter with which this article is generally contaminated. I was not so fortunate as to receive a reply to this letter (beyond a message through a third party,) and this absence of encouragement prevented me from following the matter further; but I may add that for my own use I continue the manufacture with a success which convinces me that it is only necessary to extend the scale upon which my operations are carried, and to secure practical knowledge in the more important details of the process, to ensure the most complete realization of my anticipations, regarding the vast benefits to be derived by this item in the list of productive resources of the Neilgherries.

The following is an estimate of the cost of ale brewed here, from *actual* experiment :—

In England to make a hogshead (66 gallons) of strong ale intended for export to the tropics, the brewers use

6 bushels of malt,  
and 6 lbs. of hops.

Now it has been ascertained since the introduction of sugar into British breweries that 180 lbs. of moist sugar are equivalent to 1 quarter, or 8 bushels of malt.

If therefore both malt and sugar are employed in equal proportions, the hogshead will require

\* Estimate of the expense of manufacturing malt liquors. \* 3 bushels of malt and 72 lbs. of sugar.

Considering the Hill malt to be 100 per cent. inferior to English malt, I made use of 6 bushels of malt and 72 lbs. of sugar.

#### ESTIMATE.

6 Bushels of barley, or 60 kolagums, at 12 kolagums per Re. ...	Rs.	5	0	0
72 lbs. (3 maunds) of sugar, at 4 Rupees per maund, ... ..		12	0	0
7 lbs. of hops (imported from England,) ... ..		7	0	0
Fuel for kiln-drying malt and boiling, ... ..		1	4	0
Proportion of labour in steeping barley, turning malt, drawing water, brewing, &c., ... ..		2	0	0
Sundries, ... ..		1	4	0
Cartage to Bangalore (1 cask a load,) ... ..		9	0	0
Total, ... Rs.		37	8	0

A hogshead should run 60 gallons of clear beer; hence  $\frac{\text{Rs. } 37-8}{60} = 10$  annas per Imperial gallon for the gross cost.

This estimate might be reduced in many of its items if a Government brewery were established here upon an extended scale. In the first place, Yeast much wanted on the Hills for making bread. all the yeast produced would meet with a ready sale in Ootacamund for the bakeries, which are now dependent on the low country for a supply of toddy, with which bread is fermented all over India, and which, having to travel a considerable distance before it reaches the settlement, is often found to have passed into the stage of acetous fermentation, rendering it either unfit to make bread with, or causing the bread to have an unwholesome and bad taste.

A large quantity of yeast would also be daily required for the bake-houses of the European Regiment located here.

The estimate for hops, at 1 Rupee per pound, delivered here, is far too high, as if sent out by the Home Government in quantity, they could not possibly stand in at the brewery at so high a rate ; and the cost of labour would be diminished if a large quantity of beer were brewed daily.

I would further beg leave to dwell upon the importance to this district of the establishment of such a manufacture upon a large scale in a revenue point of view, which, from the great demand it would create for barley, would soon lead to the reclamation of the greater part of the waste but rich lands, which are now left untouched, through want of stimulus to the industry of the Hill tribes, and also as it appears to me in some measure to the want of hands to till them, a deficiency which would, however, be speedily remedied by immigration from Mysore and the plains around. In fact, were it not for the assumption of absolute right over all the lands, waste and cultivated, which are situated on the plateau of these Hills, by the Todas, Burghers, and Kothers, there is no doubt that many low country people who come up here seeking employment as coolies would form settlements, and permanently locate themselves wherever they could obtain possession of land to bring under cultivation.

Should Government at any future time see fit to create an establishment on these Hills for the manufacture of beer, it would be very advisable, and indeed in the first instance almost indispensable, to connect with it a Government farm, to serve as a model for the introduction of improvements in husbandry, both in regard to ploughing and dressing the land, and in the preparation of good manure,—a department of the farmer's profession, of which the Hill agriculturists appear to have no knowledge whatever. Good seed must be sent from England and distributed amongst the Burghers, upon whose exertions the stimulus of a premium in the shape of a higher price for barley of a superior description would doubtless soon produce a beneficial effect, while imitation of the system pursued by the employés of Government in the management of the farm lands would also, it is to be supposed, lead to the adoption of more civilized notions and

The revenue improved by the increased demand for barley for malting.

Advisability of establishing a Government Farm for the purpose of promoting and improving the cultivation of wheat and barley.

practice of agriculture, than are now to be found prevailing in any part of this rich but ill-appreciated Hill tract.

In this climate, Europeans might with perfect safety, as regards their health, go through all the out-of-doors labor, which falls to the lot of farming men in England. They do so in New Zealand and Port Adelaide, where the climate is unquestionably less temperate than here; and as on the Neilgherries the actual exertion of European bodily strength would only be required at particular seasons of the farming year, such as in the direction of the plough and the use of the scythe, while superintendence and instruction of the native labourers would alone be required on the part of a European, in conducting the minor details of a farm, I cannot but think that in many respects a far finer field upon a small scale is offered on these Hills to the emigrant farmer from home than is met with by the many who flock to the Australian settlements. Here cooly labor is very cheap, 2 annas or  $2\frac{1}{4}d.$  a day, being the regular rate of pay for a working man who can perform any duty pertaining to spade husbandry, and undertake all the work of a farm which in England would fall to the lot of the common labourer, such as hedging and ditching, trenching, hoeing, reaping, stacking, thatching, &c., &c. A shilling a day, or  $\frac{1}{2}$  a rupee, is the pay of a bricklayer or carpenter; men to look after horses receive 12 shillings, or 6 Rupees a month; cowherds 4 or 5 shillings, and all other labor in proportion. These advantages, coupled with those presented by a ready and ever-demanding market for such articles of produce as wheat, barley, oats, if raised, clover, hay, (of which article an immense quantity would be consumed in Ootacamund if it was procurable,) turnips, potatoes, (Ceylon offering a very favorable market for this vegetable,) butter, eggs, and stock of all descriptions, both for butcher's meat and for salting for ship use, would surely, it is to be supposed, tempt many indigent farmers to this Hilly region, whose necessities impel them to emigrate from the mother country, but whose steps are stayed by the warnings uttered by the many hundreds of their unfortunate fellow countrymen who have hurried heedlessly out to the Australian Colonies, only to meet with disappointment and ruin.

Should circumstances ever induce Government to establish a farm on these Hills for the purpose of encouraging the growth and extending the cultivation of wheat and barley, I should recommend two sites for its location: one the elevated tract of land to the westward of the Pykara river, commencing at the north-west angle of the plateau near Neddiwattum, and extending southward to "Makoorty Peak," the whole of which may be said to be uninhabited, there being only 7 small Todar Munds situated on it, and these not all occupied; while the soil is for the most part excellent, pasturage abundant, and the land covered in many parts with fine forest, rendering the tract (which contains about 12,000 acres) admirably adapted for the purpose which I venture to suggest.

The other site is a fine tract of land forming a sort of promontory in the north-east angle of the plateau of the Hills, called "Kodanaad," which is equally uninhabited, having only 3 unoccupied Todar Munds within its limits, the soil good, and forest abundant, many



fine wooded valleys extending through it, and offering a most eligible locality for a farm. The tract contains about 7,000 acres.

The other grain and vegetable productions of the Neilgherries are—

Ragghee.	Samee.
Korallee.	Teuney.
Buttacuddaley.	(a kind of Peas.)
Shanungee.	(,, ,, ,, Gram.)
Kudagoo.	(Mustard seed.)
Garlic.	Onions.
Onions.	Vendium.
Poppy seed and Opium, Turnips, Cabbages, Peas, Carrots, Beet, Clover, Potatoes, &c., &c.	

Almost all the grains enumerated are raised solely for home consumption, and, excepting "Korallee," for which about 1,200 bullums of land are cultivated yearly, the quantity of each which is produced is insignificant. I may therefore refer for further particulars regarding them to the accompanying "Statement," in which is set forth the total quantities of land cultivated and of grains produced, the ratio of return of crop to the seed sown, the selling prices of each, and the rates of assessment.

The information upon which the Table has been framed is derived from the Revenue accounts for 1847, and although the average of produce and return is rather a high than a low one, it may, generally speaking, be pronounced as correct as it is possible to make a return of its description, in a district where the site of cultivation is so perpetually shifting, as is the case on the Neilgherry Hills.

From the data given in the Statement it will be apparent that in a district where the cost of labour is so low as here, considerable profits must be realized by the cultivators. In the items of potatoes, wheat, poppy, and barley we find that after deducting the assessment and the cost of seed here remains respectively as profit and for repayment of the expense of cultivation—

On an acre of Potatoe land	Rs. 54 3 3
,, ,, ,, Wheat do.	,, 16 0 0
,, ,, ,, Poppy do.	,, 8 10 0
,, ,, ,, Barley do.	,, 5 13 7

These are estimated upon the prices obtainable upon the Hills for produce, but if potatoes and wheat were exported, a much larger profit would be realized.

Hence we have another promising opening to emigrants in the form of an establishment for breeding and salting pork for the Navy, as since potatoes and barley can be produced at so low a rate, and a herd of cows kept for nothing but 5 shillings a month to a

cowherd, with a percentage for interest on outlay and to cover casualties, large profits must be realized by the sale of the pork to the shipping at Bombay or on the Coast, where the average price is remunerative even to the breeder in England, where all articles of stock food are so much dearer.

Amongst the productions of these Hills may be enumerated hides, both of the buffaloe and ox; the former of which are especially prized in the low country for making soles of shoes, traces, and other articles requiring a strong and durable leather.

I have not been able, however, to collect any trustworthy information on this head, either as to quantity cured for export, or their price. The number sent to the plains annually cannot, however, be large, as it will be seen by the returns that the total number of buffaloes herded on these Hills is insignificant when considered with reference to the extent of pasture land available and to the general pastoral habits of the inhabitants.

It will be seen by the Statement that *Opium* is produced on these Hills to a small extent. The poppy is cultivated by the Burghers only, but they appear to pay more attention to the collection of the seed, which fetches a very remunerative price as an article of food in the bazars, than to the extraction of the drug from the capsules of the plants.

The total quantity produced last year was under 200 pounds weight avoirdupois, but I have no doubt it might be increased very greatly if other cultivators could be introduced on the Hills, as the Burghers, slaves to habit, prejudice, and love of ease, oppose themselves to any change or improvement which involves additional trouble or personal labour.

Poppy fields require some care both in preparing and well manuring the ground before sowing, and in hoeing and irrigating it whilst the plants are young. Hence this kind of cultivation is only carried on in the immediate vicinity of their villages, where they can be attended to by the women and children, and where manure, such as it is, is more readily, and with less trouble, collected. The opium extracted by the Burghers from their poppies appears to be of exceedingly fine quality, and meets with a ready sale in the bazars of Ootacamund, amongst the Mysore and Malabar coolies and others in better circumstances, by whom it is eaten in its raw state, but never, as far as I can learn, smoked.

Having thus reviewed the more important articles of agricultural produce, I am induced, before concluding the subject, to hazard the remark that I cannot but consider that the lands comprising the plateau of these Hills, so valuable from their capacity for producing grains which cannot be cultivated in the low country which surrounds them, and which are so much needed for the public good, are, under the exclusive system, which at present prevails, both misappropriated in their partial cultivation and wastefully neglected; inasmuch as there is not drawn from them that full amount of benefit to the community which nature has so eminently qualified them to contribute.

On looking at the "Statement" it will be seen that out of

11,500 Cawnies, at present under actual cultivation, only

4,300 Cawnies are devoted to the production of wheat and barley, while on all the rest of the land grains are reared which, with only one or two exceptions, are grown just as well and far cheaper in the plains below, and would be brought up and bartered for wheat to any extent could this much-wanted grain be procured on the Hills in greater quantity. It will scarcely be credited that this district, so peculiarly well-adapted for the cultivation of wheat, actually does not produce enough to supply the bakeries of the principal settlements, for the use of which large quantities of a very inferior description of grain are imported from Mysore, while the minor settlements of Coonoor and Kotergherry are supplied with bread from Coimbatore. Still wheat certainly finds its way to the low country by being bartered by the Burghers, with the traders, for cloth and other articles, but the quantity thus exported is insignificant, and bears no comparison with that imported from Mysore.

There remain yet a few articles of plantation produce to be noticed, the oldest of which in the agricultural history of the Neilgherries is  
 silk. *silk.*

There are several plantations of mulberry trees in the Neilgherries, with establishments for the breeding of the silkworm, and preparing and winding the cocoons. The silk produced has been pronounced in London to be of a quality very far superior to that imported from Bengal, which is spun in the plains, and what has been sent home has realized, I am told, higher prices.

The quantity produced, however, has hitherto been very insignificant, and I confess, as far as I am able to judge, the scheme is a failure. The young mulberry trees do not shoot out fresh leaves with that redundant luxuriance which distinguishes all other descriptions of vegetation on the Hills: the weeding, watering, and pruning which they require involves much expense; the worms require the most delicate treatment both in regard to food and temperature; the apartments in which they are hatched and spun being warmed by means of stoves, which must be kept fired night and day, and the quantity produced by them not being in a proportion to allow the superior quality to secure a profit to the cultivator. Already one large plantation and silk house at Coonoor have been given up, and I should think it will not be found that this description of cultivation will be extended by future settlers.

Numerous plantations of coffee trees are scattered about the Hills, principally situated on the slopes descending to the plains, where the elevation suitable for the growth of this shrub can be attained. Until within the last 2 or 3 years coffee plantations were only found on the eastern side of the Hills, but representations of the excellent quality of the berry, and of the advantages attending its cultivation on the Neilgherries having been made in Ceylon, the attention of the skilful planters of that island was attracted in this direction, and the result has been the opening of several plantations, where I ventured to predict in a former

memoir that this description of cultivation would sooner or later be introduced, *viz.*, on the western slopes of the Hills.

The advantages which I allude to as attending the cultivation of coffee on the lower slopes of these Hills are very great, and eminently so when compared with those, the possession of which has of late years so greatly enhanced the value and importance of the neighbouring island of Ceylon.

The chief of all is the cheapness of labor, a cooly receiving, even on plantations in the "Koondahs," Rupees 4 a month, while in Ceylon 8, 9, and even 10 are given; while in the pay of artizans, such as carpenters, sawyers, masons, &c., a still greater disparity in favour of this district exists; and the second is the abundance of this labour, the neighbouring provinces of Malabar, Mysore, and Coimbatore supplying coolies in sufficient numbers to meet all demands and at all seasons of the year; while in Ceylon the utmost difficulty is experienced in most parts to obtain labourers when urgently required, and at all times the supply of coolies is extremely precarious.

Planters here have also the advantage of a good public road passing through the heart of the forest land of the Koondahs, and affording ready means for obtaining supplies, machinery, &c., or of sending away produce for shipment by a route of which less than 30 miles are by land and 40 by water to the port of Calicut. One estate, which was opened about two years ago near "Wallakador," half way down the Koondah Ghaut, by the late Archdeacon of Ceylon and Mr. Hutson, also of that island, and which I had an opportunity of inspecting recently on my way up from the Western Coast, is in a very flourishing condition, and has every promise of turning out most successfully. In its neighbourhood are tracts of virgin forest land of immense extent, stretching away over the innumerable spurs and valleys into which the Koondahs are broken as they slope downwards toward the Ponany river, all eminently suitable for coffee-planting, having the proper elevation, a good and deep soil, and enjoying a climate particularly favorable to the nourishment of this peculiar shrub.

If the success which is looked for crowns the exertions and adventure of the first speculators, there can be little doubt that when the Koondah coffee appears regularly in the market as a production of this district, the attention of capitalists at home will be directed to it, and the Western portion of this mountain tract become a source of great increase to the revenue of the country, while it will afford employment and subsistence to the many indigent people in the neighbouring provinces who at the present time suffer such privations from the want of it between the seasons of sowing and reaping the crops in the plains, and indeed for more than three quarters of the year.

The other, or what may be called the old plantations in the other parts of the Hills, but principally on the north-eastern slopes, are insignificant in point of size, but remarkable for the peculiarly fine flavour of the coffee produced, which is considered to be owing to the high elevation at which most of them are situated. Some

plantations near Coonoor and Kotergherry are 5,000 feet above the level of the sea, but it seems to me that the advantage derived from this superiority of flavour is more than counterbalanced by the general want of vigour and luxuriance of the coffee trees, which evidently do not thrive in this latitude so well at an elevation exceeding 4,500 feet as between that and 3,000 feet. It is not easy to estimate the amount of land at present under actual cultivation for coffee on the Neilgherries, as in most cases the coffee fields are so mixed up with the mulberry grounds that it is difficult to arrive at the precise extent of each; but it may be pronounced not to exceed 280 acres on the eastern side and 300 acres on the western. The general return of those on the eastern side, which are the only ones at present in bearing, is, on an average, about 6 to 7 cwt. per acre, which is a remunerative rate under the prevailing circumstances of cheap labour and low expenses, but the trees require manure to keep them up to this rate of bearing, and more care in pruning and management than is bestowed upon them.

Salt provisions may be mentioned as an article of produce of the Neilgherries, though the preparation of it is not carried on in an extensive way.

Salt Provisions.

Hams, bacon, salt pork, &c., are cured in the settlements, and sold at a cheap rate, some cured by European settlers being of excellent quality.

I am informed that the Bombay Government were anxious some time since to enter into a contract for the supply of the Indian Navy with salt provisions in lieu of those prepared for Government use in the unsuitable climate of Bombay; but the opportunity of establishing this branch of productive industry on a firm and regular footing was lost, owing to there being no person on the Hills who could be induced to undertake the responsibility of so extensive an engagement.

The feeding of stock, if connected with a proper farm on which to raise dry food and support cattle, could be carried on most economically here, especially as regards pigs, whose chief food (potatoes) is raised on the Hills out of almost any soil, and with a most profitable return. There might be more difficulty in fattening oxen for the salting tub, because the pasturage on these Hills, though for the most part luxuriant, is rank and fibrous, and does not appear to produce fat or flesh in ruminating animals, except in the case of the Hill buffalo, which alone thrives upon it; but as mangel wurzel has been tried, and seems to take very kindly to the climate and soil, this difficulty might be overcome by its introduction. A good English grazier also would soon exterminate the bad grass out of his land, and replace it by grass from good mixed seed from home, which experience (on a small scale) has shown to thrive well on these Hills. Clover and lucerne also flourish here, especially on lands not more than 6,000 feet elevated above the level of the sea; in fact, under a proper system, there never could be any want of dry as well as green food for fattening stock felt in this district.

There is another subject which, before closing this chapter, I am anxious to draw attention to, and that is the supply of firewood obtained from the woods with which the surface of the Hills is dotted. This may at a casual glance appear comparatively inexhaus-

tible, but I am satisfied it is not so, and that to preserve in localities where it may be called available for general use a provision for future years, some measures of conservation should be adopted, more especially should European troops, with the host of natives who will follow them, be permanently located on the Neilgherries.

At present while hundreds of trees are being felled daily, not one is planted, and it is reasonable to anticipate that, unless some system is adopted to conserve and renew the woods, particularly in the neighbourhood of the projected barracks, Government will before long be put to a heavy expense in supplying the troops with this necessary of life from a distance.

### MODES OF CULTIVATION.

The modes of cultivation adopted by the agricultural Hill tribes have been already so frequently adverted to in the preceding chapter on productions, that it will be only necessary here briefly to review them.

I have described their system of agriculture as radically bad ; and it is so for these reasons : *first*, because the land is not properly ploughed ; *secondly*, because it is not properly manured and dressed ; and *thirdly* because no change is ever made in the seed which they sow in it, not even to the extent of bringing it from neighbouring villages, the Burghers sowing the same seed over and over again in the same soil, until an inevitable deterioration takes place in the product.

The plough used is a most wretched implement, the share being almost invariably a piece of pointed wood, of a tough description, hardened in the fire, and not shod with iron or any other metal. Owing to this and to the clumsy form of the plough, which gives the man at the tail but little power over the instrument, the land is not furrowed or turned up beyond a depth of 6 inches, and consequently fresh and unworked soil is never worked up to the surface, but the top soil is alone made use of. The consequence of this and other causes is, that they can take but one crop off their lands of wheat and barley, and are then compelled to let them lie fallow always for two and generally for three years before they are again brought under the plough.

Attempts were, I believe, made some time back to introduce cast-iron ploughs amongst the Burghers, but of course without success ; first, because of the obstruction which their prejudices opposed to the introduction of the novelty ; and, secondly, because there were no Europeans to show them how to use it or how to team their little diminutive cattle so as to enable them to drag it.

It would, be useless therefore, to attempt to make them use a better description of plough until the means for instructing them in its use could be commanded, and here again we see the advantages which a model Government farm would present in the facility with which all such innovations upon their old vicious system could be practically illustrated and made available for those for whose improvement it was introduced. At present, instead of

making one plough perform the work of furrowing the ground to the required depth, 6 or 7 ploughs are employed, each following precisely in the track of its predecessor, the spike of the one deepening the small trench scraped by the other until, when the last has passed, it has been made what they consider deep enough, when they turn and form a new one. The ground is then worked, chiefly by boys and women, with a small hand hoe, (for they have no harrows or any other farming implement besides the plough) and the grass and weeds collected with the hand into small heaps and afterwards burned. Manure is then thrown over the fields and slightly worked in, and it is then considered fit for the seed. The wretched quality of the manure which they use next requires notice. They have no knowledge whatever of the way to produce or manufacture, if the term may be used,

Manure. manure, by heaping the dung of their cattle and covering it in with alternate layers of soil and vegetable substances, but merely take the dung which has been lying exposed to the sun and weather for months, the whole of the nutritious gases having escaped and its fermentation being long since over, and apply it in its dry and hard, and all but useless, state to the land.

The consequence of course is that the soil derives but little or no benefit from the manuring; no heat is communicated to it to encourage the seeds to germinate, or to stimulate and invigorate the growth of the young plant, and the grain produced is small, light, and poor.

There is no doubt, as I have already remarked, that lime is the manure most needed to improve the general soil of the Neilgherries, but the expense of this material of course deters the native cultivators, whose ideas cannot be carried beyond the prospects and returns of the current year from using it.

But this expense, under a proper system of farming, would be found light, as in all probability about 40 bullock loads, or 2 tons of lime per acre applied once in 5 years would be found sufficient to produce a very great and remunerative improvement in the crops raised.

This quantity would cost for lands situated within 2 or 3 miles of any of the Passes or Ghauts about Rupees 25, and as the lime-burners are always glad to receive Hill produce in barter for their commodity for the sake of keeping their cattle employed, the cultivators would not be called upon to find capital to invest in this part of their farming operations.

A most essential point on which the Hill cultivators stand in great need of instruction is the preparation of manure, for which the climate, with its sharp sun heat in the day and its cold dewey nights, so favorable to the promotion of decomposition, and the abundance of vegetable matter, rich in alkali, such as the fern, which is to be found all over the Hills, affords great facilities.

Preparation of manure. Every Burgher and Kother village has a large herd of cattle attached to it, which are penned during the night in a large circular pen surrounded with stone walls, and allowed to graze over the country during the day.

They are never littered at night, and their ordure is allowed to accumulate and lie exposed to the sun in the pen until it becomes an inconvenience to the cattle, when it is removed and thrown outside, and left as before uncovered and exposed to waste away. Now if a few trusses of fern were to be strewed occasionally over the pen, and all the collections down to the scraping of the soil removed frequently and laid in layers with soil, weeds, fern or other green vegetable matter alternately, the nutritive gases of the dung would be retained, the decomposition of the mass would proceed by slow fermentation, and by continually adding to the heap or forming new ones, every village would have ready for use at the time of sowing, which is as soon as the frosts have ceased, a large stock of the very best and richest manure, instead of the small quantity of almost useless stuff which they now employ. I believe it has been ascertained in England that this system of covering in the layers of manure with soil adds 50 per cent. to its value, both because the gaseous matter is retained thereby, and because by its action the earth laid on becomes impregnated with ammoniacal and other salts, and forms an adjunct to the dung when worked up with it. It is not therefore too much to say that by the introduction of a better system of preparing manure, or rather by the introduction of a system where none now prevails, the produce of the lands cultivated by the Hill tribes would be increased by 50 to 100 per cent., and it would moreover enable them to bring more land under the plough, and avert the necessity which they find, or consider to exist, for allowing their corn lands to lie fallow 2 or 3 years for 1 year of crop.

Indolence, combined with apathy, is however the prime cause of their deficient system of agriculture, for I firmly believe that were five manure heaps prepared in this way for their use, they would, avaricious as they are, prefer letting a field, capable, if sufficient manure were applied, of producing a crop of wheat, remain fallow through the year, to carrying the manure to it, if it lay at the distance of a mile or so off.

They never use carts to carry manure to their fields or to bring produce home, every thing being carried on their heads ; although in many parts of the Hills the features of the ground would admit of the light bandy of the country being employed very advantageously. Such an innovation would, however, never be dreamed of.

Thus it is that this fine district, capable of being turned to such great account, is perverted in its use, and undeveloped in its resources. Grains which can be produced in almost any soil and in the sultry climate of the plains raised on its lands, because they require no manure, or but little, to nourish them, and because their culture and future management involve no great labor or trouble to the holders of the soil.

A striking contrast in respect of agricultural industry and a desire to improve is presented by the system pursued by the emigrant natives from the plains, who have settled in various parts of the Hills, principally in the vicinity of the European stations, and

Native emigrants from the plains more industrious than the Burghers.



employ themselves in cultivating small patches of land for potatoes, turnips, and other European vegetables.

These men having had the value of the soil pointed out to them, are now commencing in various parts to drain and reclaim the bog lands, and raise upon them crops of the very finest potatoes, with a very small outlay.

Their enterprise is, however, circumscribed by the absence of an extensive demand, and by the want of dealers who might buy up the surplus stock in the settlements, and send the commodity either to Ceylon, where a highly remunerative market would be found, or to the several large stations in the plains, where the demand is always active.

Wheat, barley, and most of the other kinds of grains produced on these Hills are sown generally in April, when the frosty weather has entirely passed away and the crops are cut if the season has been favorable in July. Poppy seed, however is sown in October, and the seed collected in January, as it is found that the opium exudes more freely and of greater consistency and richness in frosty than in warm weather. For potatoes no particular time is observed, the sets being put in the ground in any month, except the most frosty ones of December and January. And as soon as one crop is taken up, which is in 3 months from the time of setting, the land is manured, dug and hoed, and fresh sets put in without any delay, so as to ensure three full crops during the twelve months.

Wheat, barley, &c., sown in April and reaped in July and August.

Three crops of potatoes raised annually from the same land.

*Statement of the Agricultural products of the Neigherries in 1817.*

( 29 )

Name of Production.	QUANTITY OF LAND CULTIVATED.			PRODUCE.	RATIO.	GROSS AMOUNT PRODUCED.			AVERAGE SELLING PRICE.				RATE OF ASSESSMENT.				
	EQUIVALENT.					Of re- turn of crop from seed.	In kola- gums, per acre.	EQUIVALENT.		Per kola- gum of 2 seers.	EQUIVALENT.		FOR GOOD LAND.		FOR INFERIOR LAND.		
	In veltums.	In Cawties.	In Acres.					In bushels.	In quarters.		Per bushel.	Per quarter.	Per veltum.	EQUIVALENT.		Per veltum.	Per acre.
														Rs. A. P.	Rs. As. P.		
Wheat,	70	202	267	11-12	40 to 1	23,000	2,978	372	Rs. A. P. 0 2 8	Rs. A. P. 1 9 0	Rs. A. P. 12 8 0	3 8 5	Rs. A. P. 1 3 6	Rs. A. P. 0 14 9	Rs. As. P. 2 5 7	Rs. As. P. 0 13 9	
Barley,	1419	4109	5,433	11-12	20 ,,	1,567,600	60,338	7,548	0 1 1	0 10 2	5 1 4	3 8 5	1 3 6	0 14 9	2 5 7	0 13 9	
Raghuas,	105	803	..	11-12	80 ,,	142,000	4,408	553	not brought into the market.				2 0 11	0 11 5	0 8 8	0 14 1	0 4 10
Samee,	364	1052	..	8-4	60 ,,	1,109,200	11,617	1,452	0 0 0	0 0 0	0 0 0	2 0 11	0 11 5	0 8 8	0 14 1	0 4 10	
Koralley,	1239	3724	..	5-6	10 ,,	1,257,800	27,425	3,425	0 0 0	0 0 0	0 0 0	2 0 11	0 11 5	0 8 8	0 14 1	0 4 10	
Tenney,	102	294	..	8-4	30 ,,	130,600	3,255	407	0 0 0	0 0 0	0 0 0	2 0 11	0 11 5	0 8 8	0 14 1	0 4 10	
Buttaeddoley,	83	240	..	5-6	40 ,,	116,600	1,766	221	0 2 8	1 9 0	12 8 0	2 0 11	0 11 5	0 8 8	0 14 1	0 4 10	
Shanungee,	55	159	..	8-4	30 ,,	116,500	1,755	220	0 2 8	1 9 0	12 8 0	2 0 11	0 11 5	0 8 8	0 14 1	0 4 10	
Garlic,	132	331	..	10-8	48 ,,	174,200	8,425	1,053	0 0 10	0 8 0	4 0 0	3 8 5	1 3 6	0 14 9	2 5 7	0 12 9	
Onions,	31	90	..	20-	56 ,,	21,700	2,303	283	0 1 1	0 10 2	5 1 4	3 8 5	1 3 6	0 14 9	2 5 7	0 12 9	
Mustard seed,	122	352	..	8-4	150 ,,	136,600	3,893	437	0 0 10	0 8 0	4 0 0	3 8 5	1 3 6	0 14 9	2 5 7	0 12 9	
Vendium,	67	194	..	5-6	100 ,,	113,400	1,425	178	0 1 0	0 9 5	4 11 4	3 8 5	1 3 6	0 14 9	2 5 7	0 12 9	
Potatoes,	49	141	..	600 mds.	15 ,,	1 mands equal to 29,400	..	Cwt. 6,562	0 6 0	per md.	0 0 0	7 0 0	2 6 9	1 13 4	5 0 0	1 11 8	
Poppy seed and Opium,	93	269	..	2-8 or 3 of a lb.	100 ,,	19,300	990	124	0 4 0	2 5 7	0 0 0	3 8 5	1 3 6	0 14 9	2 5 7	0 12 0	
Total land cultivated,	8,981	11,510	15,220	J. OUCHTERLONY, Captain, Suptd., Neigherry Survey.													

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*Prices of principal products (see Table 47 a.)*

The prices of all the grains produced on these Hills have been already given in the Table at page 29; it is therefore only necessary here to particularize those productions which have not found a place in that return.

1. *Coffee*.—The average price of coffee in the bazaar is Rupees 5 per maund of 25 lbs., but it fluctuates much, being at the present moment not more than Rupees 4 a maund, owing to the anxiety of growers to get rid of their crops picked in November and December on the spot to avoid the expence and risk of sending it to Madras or to the Western Coast for shipment.
2. *Silk*.—For this article there is no sale on the Neilgherries.
3. *Hides*.—These are to be obtained, but in limited quantities. Buffalo hides are sold
- |                 |     |     |     |     |        |   |   |   |      |
|-----------------|-----|-----|-----|-----|--------|---|---|---|------|
| at              | ... | ... | ... | ... | Rupees | 2 | 0 | 0 | each |
| and Ox hides at | ... | ... | ... | ... | "      | 0 | 9 | 0 |      |
4. *Building Materials*.—(at Ootacamund) Bricks, per 1,000
- |       |       |  |   |    |   |
|-------|-------|--|---|----|---|
|       |       |  | 2 | 0  | 0 |
| Tiles | ditto |  | 1 | 12 | 0 |

Teakwood and chunam are brought, the one from Seegoor and the other from the province of Coimbatore.

5. *Salt provisions.*  
Hams are sold at 5 annas per lb.  
Bacon at 4 annas ditto.
6. Butter, fresh, 1 Rupee per pound.

7. Jungle wood : the best description is the bastard cedar, which is now extensively used for flooring planks and doors, shelves, &c., in house building. The price is about 7 annas per 12 square feet of one inch thick. Rafters, lintels, beams, &c., in proportion.

8. Bees-wax, unbleached, is sold by the Eurelars and Coorumburs at  $\frac{1}{4}$  Rupee per seer.

9. Castor-oil of very excellent quality is expressed here, and is sold at 3 annas per quart bottle, or about Rupee 1 per imperial gallon.

The prices of these articles of course differ at each of the 3 settlements, but the difference is slight and not worth recording in this Statement.

Tenure and occupation. Land is held on the Neilgherries by European settlers under a putteum or grant from Government, leasing it to them in perpetuity so long as the regulated assessment is paid. In the Cantonment of Ootaca-

mund, grants are made of the land without any fee being exacted, not beyond its limits, as every spot, whether utterly barren and incapable of production, or only untilled waste, is laid claim to by either the Todars, the Burghers, or the Kothers, the land has to be purchased from one or other of these tribes, who exact such price as they think fit. After such purchase has been effected, it is necessary to apply to the Collector of the district for a putteum or acknowledgment of right to occupy and cultivate, though this may be considered a matter of mere form.

The tenure of land by the various Hill tribes will be more fully entered on in describing each separate race of people; it will therefore only be necessary to record here, for the sake of reference, the general circumstances which rule it.

The Todars hold their land, which they consider to extend over the whole plateau, by right of immemorial occupation, alleging that their ancestors came to the Neilgherries before there were any kings or sovereign rulers in Southern India, and never paid tax or tribute to any one.

The Burghers hold their land, which, if their vague claims are to be allowed, may be stated as comprising two-thirds of the whole Hill plateau, nominally by permission of the Todars, to whom they pay, in acknowledgment of the proprietary right of the latter, a goodoo, or tribute, (being synonymous with the word "yomeah" in Hindustani,) which ought, according to the claims of the Todars, to amount to one-sixth of every description of grain produced by the cultivators. This goodoo is, however, evaded to a great extent, the Burghers giving to the Todars just what quantity of grain they think fit to part with, and of those descriptions which they can the most readily spare; while some refuse to give anything at all until compelled by the Todars.

This system, in its enfacement without the direct sanction of Government, naturally leads to much wrangling and confusion, and may hereafter be productive of mischievous consequences, as the sentiments of the Burghers change, and they view, as they already begin to do, this "goodoo" in the light of an illegal and unauthorized impost.

They themselves admit that before the days of the East India Company, they used to pay one-sixth of their produce to the Todars, but that was when their number was small, but when more Burghers came from the North country to join them, and when they began to imbibe notions of independence from the Europeans, they reduced their tribute, until it has arrived at its present footing, of a voluntary donation.

In speaking of the collection of the "goodoo" by the Todars, the Burghers describe them as coming to their villages as "Peechakarur," which means beggars,—a term sufficiently explanatory of their view of the question of right on the part of the Todars to demand the tribute.

The Kothers hold their land precisely in the same way as the Burghers.

The Eurlars hold the small patches which they cultivate, and which are all situated in the neighbourhood of Rungaswamy Peak, and of the Kotergherry Pass, independent of the Todars, who do not assert their proprietary right over the lands which extend below the actual summit or plateau of the Neilgherries. The Eurlars have a loose kind of tenure of their land, holding it at pleasure so long as they pay the assessment. But they cultivate so little ground that it is scarcely worth noticing.

The assessment on lands on the Neilgherry Hills is divided into two classes, one applicable to those held by the native agriculturists, and the other to those occupied by European settlers.

Modes and rate of assessment.

It is levied in the former according to the measurement of fields actually bearing crop, estimated in "bullums" (or "bullahs") each bullum being equivalent to 2 *cawnies* 21 *grounds* and 864 *square feet*; or in English measurement.

$$1 \text{ Bullum} = 3\frac{1}{6} \text{ Acres.}$$

And the rate of assessment is fixed according to the nature of the crop which the land measured is bearing at the time, and also according to the abundance of that crop, or the productiveness of the soil.

When harvest time draws near, the Talook Gomastahs and Curnums (Native Accountants) proceed to the different villages, and form an estimate of the probable out-turn of the crop from inspection of its condition, rating it as 1st class if it promises to be a good one, and as 2nd class, if otherwise.

The highest rate of assessment levied is for land planted with potatoes, which pays 7 Rupees per bullum for 1st class ground and 5 " " ditto " 2nd ditto ditto.

The next rate in the scale of assessment is applied to lands bearing

Wheat, which pay	{ 1st class Rupees	3	8	5	per bullum.
	{ 2nd ditto "	2	5	7	ditto.
Barley "	{ 1st ditto "	3	8	5	ditto.
	{ 2nd ditto "	2	5	7	ditto.

and the same for poppy land, vendium, mustard seed, garlic, and onions.

The next rate applies to

Ragghee, samee, koralley, peas, shanungee and tenney, all of which pay, as follows,	
<i>viz.</i> per 1st class land	... Rupees 2-0-11 per bullum
and 2nd ditto ditto	... " 0-14-1 ditto.

For further particulars regarding these rates of Assessment and their equivalents per cawney and per acre, I may refer to the Table at page 29 of this memoir.

Lands held by Europeans, whether by grant of Government within the limits of the Cantonment, or purchased from the Hill people in more distant localities, pay at the following rates of assessment :—

For ground occupied by buildings,	Rupees 5-4 per cawney.
For ground appropriated for gardens or general agricultural purposes,	„ 1-2-4 „ „

The description of people available as labourers on the Neilgherries differs according to the situation of the land in which they are required  
Labor employed and its remuneration. to work.

Thus in and about the settlement of Ootacamund, the coolies employed are all emigrants from the plains of Canara, Malabar, and Coimbatore, or from the Mysore Territory; the Canarese and Mysoreans being the most numerous.

Their remuneration is commonly 2 annas and 6 pice per diem, or about  $3\frac{1}{2}d$ .

In the vicinity of Burgher villages, and especially about Coonoor and Kotergherry, Burgher labour is available in abundance at the rate of 2 annas per diem, and they are extensively employed by the settlers to cultivate their garden lands, and by the planters to work their plantations.

Carpenters and bricklayers are mostly people from Paulghat in Malabar, or from Coimbatore. Their rates of hire vary according to their expertness, a 1st class workman receiving 8 annas a day, and 2nd and 3rd class men, 7 annas and 6 annas respectively.

Stone-cutters work by the piece, receiving on an average, for smoothed granite slabs for steps, lintels, coping stones, &c.,  $\frac{1}{2}$  Rupee per running foot.

Sawyers in like manner work by the piece, at the rate of Rs.  $2\frac{1}{4}$  per 100 feet of surface cut. It is difficult to obtain the services of this class of artizans on the Hills, as they all resort to the Teak forests at Musneumcooil and Tippacadoo near Seegoor, where the timber is sawn and dressed before being despatched for sale to Ootacamund.

Brick-makers and tile-makers work of course by contract, at the rates already noted under the head "Prices of principal products."

There are several tolerable blacksmiths, silversmiths, and abundance of tailors settled in Ootacamund and Coonoor, while on the eastern side of the Hills the Kothers are generally employed as artizans for rough smith's and carpenter's work.

These Hills possess a great advantage in regard to labor, which is and always must be abundant, because as soon as the seed is put into the ground in the low country all around,

the poorer class of coolies are, unless some great public work is going on, left without employment till after the harvest, and would come to the Neilgherries to work on farms and plantations in any required numbers in preference to wandering away to Ceylon and other parts, as they are compelled to do now in search of employment and subsistence.

The common rate of pay to all such labourers employed on plantations on the Neilgherries is Rupees 4 a month, and for this sum they labour contentedly for 9 hours per diem; and although the work they perform cannot be compared with Negro labor, it nevertheless cannot be pronounced dearly remunerated.

There are no navigable rivers in the district, although one of the many which take their rise amongst these mountains, called the Moyaar, swells into a stream of considerable breadth and depth at Pykara, where it is crossed by means of a double ferry boat and a ford. This river rises at the foot of the remarkable height called "Makoorty Peak," receives the drainage waters of the Pichulbitta and Pykaras valley, and descending the Hills by a fall at the north-west angle of the plateau, turns due east, flows along the valley which separates the Neilgherries from Wynaad and Mysore, and unites itself near Damarkencottah in the province of Coimbatore with the Bowany, of which it is the principal feeder.

#### Water. Rivers.

This latter river takes its rise amongst the southern spurs of the Koondahs, receiving near the foot of the Shoondaputty or Mailor Ghaut a large feeder which rises near the "Avalanche" on the north-east face of the Koondahs, as shown in the map, and sweeping round the base of the Neilgherries towards Damarkencottah to the north-east, unites itself near that town with the Moyaar, and thence flows on eastward till it reaches the town of Bowany, where it forms a junction with the great Cavery.

Another large and important river, which also owes its origin to the Neilgherries, is that which flows to the sea near the town of Calicut, and whose head is formed by the drainage of the elevated, tabular mass of hills which have been before described as occurring to the north-west at Neddiwuttum. This river, though it descends the Hills very near and parallel to the Moyaar, has its course diverted by a sharp ridge of rocks projecting from "Goodlar Mullay;" and while the Moyaar turns due east, this river takes an exactly opposite or westerly course, and making a second fall over the Carcon ridge of Hills, forms, after collecting many tributaries at the foot, a fine stream navigable for all sorts of light draught country craft near the town of Nellumboor, and thence flows on to the sea, disemboguing near Beypore, a few miles south of Calicut.

The Neilgherry mountains afford a great and, practically speaking, inexhaustible supply

#### Numerous morasses.

of water by means of the innumerable swamps and morasses which occupy the hollows of most of the valleys, particularly to the westward and southward. The rain which falls during the wet season, instead of running off to waste at once, as it does from the surface of the hard ground, is imbibed and retained by these morasses to such an extent, that throughout the whole of the dry monsoon a vast supply

of water is perpetually flowing from these natural reservoirs, which seem provided by nature to obviate what, but for their occurrence, might be the evil of drought in the fine season.

Owing to this cause there is scarcely a stream or rivulet on the Neilgherries which ever entirely dries up throughout or at any period of the year, in the most unfavourable weather, and hence a supply of water is constantly descending to swell the irrigation channels of the low country, which alone is sufficient to cause a high degree of importance to be attached to these mountains.

The only sheet of water which merits the appellation of a lake is one situated at  
 Lakes. Ootacamund within the Cantonment, formed by throwing an embankment across the narrow outlet of a valley through which a considerable stream, fed by numerous swamps in the neighbourhood, used to flow, and thus arresting its waters, and accumulating them so as to form a lake or tank. The object with which this sheet of water was produced was purely ornamental, a drive having been made round it for recreation and exercise, resorted to by the residents of Ootacamund. The surplus water is drawn off by means of a sluice at the bottom of the embankment, and continues its course to the north as before.

Canals. No canals occur in this district.

Gardens and cultivated grounds requiring a regular supply of water (as poppy fields)  
 Mode of Irrigation. are irrigated, where circumstances allow of it, by means of channels led off from valley streams; but the dry grain cultivation in the different parts of the Hills is sufficiently assisted by the rains, and by the moisture which the soil from its composition and depth has a great tendency to retain.

As the value of the land increases on these Hills, and their capabilities become more thoroughly appreciated, as begins to be already apparent from the increase of permanent settlers on them, both European and Native, it will, I think, be found highly necessary to establish some stringent regulations for the control and appropriation of the water of the Hill streams.

In the valuable Despatch of the Hon'ble Court of Directors to the Supreme Government, Revenue Despatch, No. 13 of 1843, upon the subject of the Dheyra Dhoon and Gorruckpore Survey, dated 23rd February 1842, by the resolutions laid down, in which it would appear by their Despatch to the Government of Fort Saint George, para. 12, No. 13 of 1843, Revenue Department, the Hon'ble Court desire that all matters relating to the Neilgherry district should be adjudicated, it is specified (in para. 63) "that the control of all streams and canals be in the hands of Government."

This principle of control does not certainly obtain in this district at the present time, parties cutting channels and leading off water from a convenient stream at pleasure,



without any permission asked or obtained from the Civil authorities, and frequently without the consent or knowledge of the proprietors of lands through which their channels are brought. No system is observed in the management of those channels, so that where a slight deviation in their course might render the water available for neighbouring lands, we find such a principle of accommodation neglected, and frequently an immense and reckless waste of the element permitted, amounting to a hundred times more than is made in any way available by the self-constituted proprietor. Other parties again whose land lies between a head of water and the ground of another proprietor refuse permission to the latter to lead it through their premises to his own, thereby inflicting injury on the individual, and causing detriment to "the property of Government," for as such, under para. 61 of the Dheyra Dhoon Despatch, the Hon'ble Court have decided "that all grants are to be considered," being "merely held as leasehold land under Government."

On this subject I would beg leave to suggest, that as "Government are to retain control of all streams" on these Hills, and as the lands cultivated as gardens pay a high rate of assessment, the same system as to the distribution of water for the use of each proprietor should be followed in this district as prevails in the low country, where not a cubic foot is allowed to be wasted or misappropriated.

This interference on the part of the Government authorities does not seem called for in any other parts of the Hills than the stations where Europeans, East Indians, and Natives have settled, *viz.*, Ootacamund, Coonoor, and Kotergherry, as the Burghers and other aboriginal cultivators make no use of water for the purpose of irrigation, save for poppy, onion, and garlic fields, which are not so numerous as to have given rise to any disagreement between adjacent villages upon the subject: whereas at the settlements it affords a fertile and constantly-recurring cause for litigation and misunderstanding.

The only town in the Hills properly so called is "Ootacamund," and even this term can only be applied legitimately to the native portion of the settlement, since the residences of Europeans are too widely dispersed along the slopes of the valley in which the station is situated to admit at present of its further extension.

So rapidly, however, is the number of houses increasing and keeping pace with the increased resort of Europeans to these Hills from almost all parts of India, while at the same time a consequently augmented demand for supplies for the European community is daily drawing more native merchants and traders to the place as permanent settlers, and thus swelling the size of the bazars beyond all bounds, that before long the term "town" will not be inappropriately applied to the whole settlement, while that of "cantonment" will be transferred to the Valley of Jakatalla, where the European barracks, are about to be built.

The houses of the European inhabitants of the settlement are for the most part substantially built; the walls are usually of burnt brick set in clay, and pointed or plastered

with lime, roofs of tiles or pukka terraced, and rarely of thatch, while all the timber work of the roof, doors, floors, &c., &c., is of teak which is brought at a great cost up the Seegoor Pass from the forests on the borders of Mysore. There are, however, many excellent and durable descriptions of house-building timber to be procured on the Hills at one quarter the cost of teak, but a prejudice exists against their use, because roofs constructed with Hill-grown timber have, in some instances, been found to decay with great rapidity, and hence its employment has been condemned by builders, who have overlooked the real cause of its decomposition, which is its being put together and covered in before it has been sufficiently seasoned. As an instance of its efficiency, if attention is paid to this important point, and the wood properly selected, I may mention that the present Survey Office has a roof, made entirely of jungle wood cut on these Hills, which has been standing more than 20 years, and which on a recent examination was found to be perfectly sound. All other building materials (except lime) are procured on the same spot, abundance of tolerably good brick clay being found in every part of the Hills. The bricks and tiles made are, however, very inferior, but this is owing to the wretched way in which the clay is worked and moulded. A labourer mixes a little water with a mamotie, treads it for a few minutes with his feet, and then pronounces it tempered, and carries it to the moulder without further preparation.

Bricks can be contracted for in Ootacamund, delivered at the kiln at Rs. 2 per thousand, and tiles Rs. 1-12 per thousand. Lime, as I have elsewhere observed, does not occur, or at least has not yet been found, on these Hills, and hence, having to be brought on bullocks from the plains, it forms the most expensive item in building estimates. Its use is economized as much as possible in house architecture by using mud as a cement to set the bricks in, in constructing walls, reserving lime only for use in turning arches, ridging the tiles on the roof, flooring, and either pointing or plastering the walls outside, with which protection brick and mud walls are found to answer very well, especially if the roof over them is kept tight, and their surfaces screened from the beat of the rain against them by a verandah.

In the bazars of Ootacamund, which are called "*the Bazar*" and "*Caundle Bazar*," the houses are of all descriptions, both puckah and cutcha. The streets are wide and well kept by the Police authorities, by whom a tax varying from one anna to        on each house per mensem is levied to support the scavenger establishment, the residue being paid into the public Treasury. And if good regulations are enforced as regards the laying out of future quarters of residence, already fast extending, the town which the bazars will constitute will become a very clean and compact one, and hence doubtless healthy also. It has the advantage of being bordered by the lake or tank, which adds of course materially to its means of preserving cleanliness.

The following is a Return of the European and Native population of the three Settlements taken in February 1848, and although many present inhabitants with their servants and followers will have left the Hills before the year ends, the total numbers may be taken

as a pretty correct average of those usually residing : as of course the place of those removing is soon occupied by fresh comers from the plains.

	EUROPEANS.				EAST INDIANS.				HINDOOS.				MUSSULMANS.				PARIAHS.				European Houses.	Native Houses.
	Adults.		Children.		Adults.		Children.		Adults.		Children.		Adults.		Children.		Adults.		Children.			
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.		
Ootacamund, ... ..	93	97	57	66	38	34	22	23	935	828	431	501	341	238	130	143	1642	1506	732	752	146	1743
Kotergherry, ... ..	9	5	4	4	8	6	11	12	49	49	17	20	7	5	3	1	55	55	22	24	15	98
Coonoor, ... ..	5	2	0	0	1	1	0	0	80	66	32	29	9	9	8	7	50	60	20	19	15	131
Aravungnad, ... ..	0	0	0	0	0	0	0	0	3	3	2	1	0	0	0	0	6	7	4	4	0	12
Total Population,...	342 souls.				154 souls.				3045 souls.				901 souls.				4941 souls.				176	1934

*Population Return of the Aboriginal Tribes occupying the Summit of the Neilgherries, 1847.*

Number of Villages or Munds.	Name of Tribe.	ADULTS.		CHILDREN.		BUFFALOES.		CALVES.		Bullocks and Bulls.	Cows.	Bull Calves.	Cow Calves.	Horses.	Ploughs.	Cattle Pens.	Total Souls of each Tribe.
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.								
85	Todars, .. ...	86	70	87	94	329	1319	158	366	0	0	0	0	209	0	91	337
227	Burghers, ...	2017	2007	1329	1216	488	1598	357	602	2087	2251	726	707	1882	1210	916	6569
6	Kothers, ...	93	92	64	58	0	0	0	0	92	87	26	21	81	50	26	307
22	Eurelars, ...	148	151	77	85	26	81	19	30	29	122	25	36	150	0	38	464
GRAND TOTAL,		2344	2320	1557	1453	843	2998	534	998	2460	2208	777	764	2322	1260	1071	7674

(Signed) J. OUCHTERLONY, *Captain,*  
*Superintendent, Neilgherry Survey.*

The settlement of "Ootacamund" is situated in an extensive, open valley, almost in the exact centre of the Hills, open to the westward, but bounded on the north, east, and south by the great Dodabetta range or spurs projecting from it westward.

The settlement of "Coonoor" is situated on the crest of the Hills in the S. E. angle of their summit, the residences of the Europeans, including a Hotel, being placed on the rounded tops of a range of hills which runs from a high mountain called "Coonoor-betta"

towards the top of the Pass, while the bazar or native residences are in the hollow below, and adjacent to a masonry bridge, which spans a wide stream flowing from the Jakatalla Valley, and descending the Hills at this point in a large volume of water.

The settlement of "Kotergherry," which with that of "Dunhutti," which is contiguous to it, is the oldest on the Hills, is situated in the N. E. angle of the plateau immediately overlooking the low country, and at the head of the Kotergherry Ghât. The bazar, which is increasing considerably in size, is built on the same range with the residences of the Europeans.

"Dunhutti" cannot now be called a settlement, since there is but one habitable residence existing there, all the bungalows built long since by Government for the accommodation of invalids having gone to ruin, and become unfit to occupy or repair. The temperature is warmer at this place than at any of the other three Settlements, and hence it is very rarely resorted to by Europeans.

Under this head may be enumerated the public bungalows and chettrums or caravan-serais, for the accommodation of travellers, Native and European, and which are under the control of the officer commanding the Neilgherries, and kept in repair by him at the public expense.

*Accommodation for Travellers.*

List of places of accommodation for travellers.

							For Europeans.	For Natives.
At Ootacamund,	...	...	...	...	...	...	None	1
„ Coonoor,	...	...	...	...	...	...	1	1
„ Kotergherry,	...	...	...	...	...	...	None	None
„ Neddiwuttum,	...	...	...	...	...	...	1	None
„ Pykara,	...	...	...	...	...	...	1	None
„ Kulputty (Seegoor Pass,)	...	...	...	...	...	...	1	
„ Nunjanaad (Koondah Road,)	...	...	...	...	...	...	None	1
„ Avalanche (ditto,)	...	...	...	...	...	...	1	1
„ Burtiar (Coonoor Pass,)	...	...	...	...	...	...	None	1
„ Kaitee (Coonoor Road,)	...	...	...	...	...	...	None	1
* Total on the Neilgherries, ... ..							5	6

(\* Exclusive of the Koondahs.)

The total number of Toda villages, called "Munds," on the Hills is 85, the whole of which, with the exception of 11, are situated in the division called the "Toda-naad," and almost all to the extreme west of that part approaching the Pykara or Moyaar river. They seldom comprise more than 3 residences or huts, with one building consecrated to their deity, and which is also the dairy or place in which their milk, curds, ghee, &c., are kept, and one large circular pen for their cattle, surrounded by a substantial stone wall, and closed by sliding bars at one opening for entrance and exit. The sites chosen for these Munds are in general most picturesque,—always adjacent to a wood, and usually on an open space of grass almost completely embosomed in it, and extending in gentle slopes covered with the richest turf which the grazing of their cattle (and the consequent manuring) maintains in the finest order. Their huts are low, arched buildings, resembling a hay cock, but admirably contrived to keep out rain and cold, the roof and side walls forming one continuous curve of split bamboos, rattan, and thatch, having an end wall strongly built and a front wall with one small opening or door in it, so small indeed that the inhabitants have to crawl on their hands and knees to enter by it. Besides the dairy there is generally one small hut attached to the Mund, in which the calves they breed are kept separate from their dams. In addition to their villages or Munds, the Todars have five sacred places, in which only two men reside, called "Polaul" and "Capilaul," devoted to a priestly life and living apart from the rest of their tribe. A temple and a cattle pen are attached to each of these sacred Munds, which are usually situated in the bosom of a thick wood so as to be screened from the vulgar gaze.

The villages of the Burghers are in general very neat and clean, the houses, which are few in number, averaging 10 or 12, being built in a row in the summit of a low smooth hill, and having a wide level terrace running along the front for the purpose of spreading out their grain to dry after damp weather, and also to pick and husk it on. They have usually two substantial cattle pens, or more according to the size of the village, with high rough dry stone walls and barricaded entrances, to secure their cows and bullocks against cheetahs and tigers, which, though not common on these Hills, occasionally find their way up from the forests below and traverse the district, doing much mischief as they pass. The houses are built with mud, or mud and stone, and covered with a good roof of thatch, grass for which is abundant in all parts of the Hills. There are altogether 227 Burgher villages on the Neilgherries,

...	...	...	..	<i>viz.</i> , 67 in Todanaad,
...	...	...	...	86 in Megkenaad,
..	..	...	...	and 74 in Parungenaad.

The villages of the Kotherers, from the fact of their low caste obliging them to consort together in large communities, present the most thriving appearance, and boast the largest number of houses in general of any of the Hill hamlets.

But owing to their dirty habits, and the want of order in the arrangement of their dwellings, their villages have by no means the neat appearance presented by those of the Burghers.

Mud and thatch are the principal materials with which their huts are built, but they form with them very substantial and weather-proof buildings.

There are six Kother villages on the plateau of the Neilgherries, and one near the foot of the Neddiwuttum Pass, situated on a low spur projecting from the foot of "Goodlur Mullay." But as the Survey does not include the site, it has been omitted in the Return.

#### Eurelar Villages.

The villages of the Eurelars are more numerous, there being twenty-two, all situated in the eastern part of the Hills.

With a few exceptions they are very small, comprising only five or six houses and a couple of cattle pens. Their sites are selected in low spots near the patches of plantain and other fruits which these people cultivate. The houses are of much the same description as those of the other tribes already described, and are generally very dirty. There are more Eurelars to the south, but they are situated far below the plateau to which the Survey has been restricted, and no account has, in consequence, been taken of them.

The same is to be said of the Coorumber villages, if indeed that term can be applied to the collections of scattered sheds in which this wandering race are occasionally come upon in the jungles below the crests of the Hills. From their mode of life, and from their being found squatting on slopes very little above the plains, it has been found impossible to obtain any return of their number.

Population.  
Numbers of people of different descriptions.  
is the summary:—

Appended to this Memoir will be found Tables furnishing all particulars of the several tribes occupying these Hills, and constituting the body of aboriginal settlers. The following

Todars	...	...	...	...	...	337 Souls.
Burghers...	...	...	...	...	...	6,569 „
Kothers	...	...	...	...	...	307 „
Eurelars	...	...	...	...	...	461 „

Total of Hilltribes 7,674 Souls

to which number have to be added—

Europeans	...	...	...	...	...	342
East Indians	...	...	...	...	...	154
Hindoos	...	...	...	...	...	3,045
Mussulmans	...	...	...	...	...	901
Pariahs, &c.	...	...	...	...	...	4,941

to form the Grand Total 17,057

of the entire population of the Neilgherries, as ascertained up to February 1848.

Deducting from the total area of the plateau, that portion lying to the westward of the Pykara or Moyaar river, which I have elsewhere described as almost entirely uninhabited, there remains a space of 420 square miles over which this population is distributed, giving a proportion of        souls to one square mile.

For the reasons already stated under the preceding head, no place or number can be assigned to the tribe of Coorumburs in this Statement. Their number must, however, be very insignificant, probably not above 2 or 300 souls.

With the exception of the Todars, who pass their days in utter idleness, all the aboriginal tribes or mountaineers of the Neilgherries devote themselves to agricultural pursuits. With these duties the Kothers alone combine those of the artizan in an humble way, as will be treated of in describing the people of that tribe.

The Todars, or Todawars.  
Total number 837 souls.

This remarkable race differ in almost every essential respect from all other tribes of the natives of Hindostan; and their singular characteristics and strange habits have given rise to much speculation as to their origin and history. As no clue has, however, yet been discovered either in the form of monuments, coins, or even in their own traditions, by which research could be directed, all theories broached upon the subject cannot be otherwise than vain and illusory—especially those which have been based upon the assumption that the images, bones, and other relics which are found in the remarkable “cairns,” discovered in such numbers all over the Hills, belonged to the ancestors of the Todars. That these are not relics of the founders of their race is proved by the present people denying all knowledge of the history of the cairns, even by tradition, and by their looking on at their desecration with as much curiosity and indifference to the sacrilege as is displayed by the antiquarian explorer, whom they have perhaps guided to the spot. In form and countenance the appearance of the Todars is remarkably striking. Tall, well-proportioned, and athletic, their bold, independent carriage, and finely-moulded and sinewy limbs, attest that they can be sprung from no effeminate Eastern race, while their aquiline nose, receding forehead, and rounded profile, combined with their black bushy beards and eyebrows, give them so decidedly Jewish an aspect, that no beholder can fail to be impressed with the idea that they must in some way, however remote, be connected with one of the lost and wandering tribes of the ancient Israelites. Their dress is as peculiar as their habits and appearance, consisting of one single cloth, a sort of toga, which they wear after a fashion well calculated to set off to advantage their fine muscular form, being disposed about their person like the plaid of a Scottish Highlander. They have no covering for the head of any kind, but never allowing knife or scissors to approach their hair, suffer it to grow into a mass so thick and bushy as to form a most effectual protection from the inclemency of the weather.

The women are rather fair in complexion, (the hue being a dull copper color in both sexes,) and are generally handsome in feature as well as in person, which is tall and well-shaped, like that of the men, their attire being equally simple and peculiar.

The little occupation which the Todars permit themselves to engage in is solely of a pastoral kind. Considerable herds of buffaloes are attached to each Mund, and to milk these, convert their milk into ghee, drive them out to pasture in the morning and home at night, and to keep their huts and the walls of their cattle pens in repair, constitute the sum of their employment from year to year of their useless existence.

Their food consists of curds, milk, and ghee, mixed with whatever grains they can obtain from the agricultural tribes in the shape of "goodoo," or tribute for the lands which the latter cultivate, and over which the Todars assert an imaginary proprietary right.

I observe that the Hon'ble Court in their despatch express a hope "that in course of time they may be induced so far to change their habits as to bring the lands in the vicinity of their Munds into cultivation." I fear, as long as this practice of receiving their grain from the Burghers and Kothers remains in force, there is but little chance of this desire being realized, and the only inducement in my opinion by which they would ever be brought to condescend to yoke their powerful buffaloes to a plough and take the handles in their hands, would be that promoted by the stoppage of their supplies by the removal of the "goodoo" imposition, and their consequent reduction to the primitive state of life which by their own account their forefathers led before the Burghers came to settle on the Hills.

Their own idea of their history is, that "their ancestors came from nowhere;" that they were created on these mountains, and that for ages no other living soul approached them. That their dress was of leaves, and their food the produce of their cattle and the roots and fruits of the forest.

That at length some Kothers found their way to the neighbourhood of their Munds, and craved permission to cultivate land and build their huts, which was given on condition of their making offerings to them (the Todars) of a portion of their produce. That soon after this some Burghers, or "Buddaghurs," came up the Hills, and observing the success which had rewarded the adventure of the Kothers, asked permission to settle also, and obtained it on condition of the payment of the "goodoo" or tribute of  $\frac{1}{8}$ th of their entire harvest.

More Burghers soon followed the first comers; the amount of the "goodoo" became extensive; the habits of the Todars changed; the cotton embroidered toga took the place of the mantle of leaves, and messes of grains of many descriptions pampered the appetites of beings who were before as primitive in all things as their native hills. With increase of numbers, however, the difference of the Burghers for them diminished, and with it the amount of the "goodoo," which received a great acceleration in its decline by the coming of Europeans to the district, when the Burghers observing their indifference to the alleged claims of sovereignty of their hitherto feudal landlords, gradually assumed the position of donors of the "goodoo" of free will and as a charity, and hence reduced its amount as the circumstances of an abundant or poor harvest, or their own wants and inclinations, dictated.



Upon this footing, as far as I have been able to arrive at a right understanding of the question, the "goodoo" appears at present to rest. The Burghers profess not to desire to be relieved from it as a tax, because to give it as a donation to the Todars has become with them a time-honored custom, which their prejudices forbid them to break through; but it seems to me evident that they are not disposed to admit the absolute right of the Todars to demand it, and hence their allotment of the quantity of produce which they are to bestow under the name of "goodoo," according to their means, their own wants, or fancy.

Anything more utterly useless or unproductive in the social scale than the life led by the Todars, it is impossible to conceive. Endowed with great physical strength and capacity to endure fatigue and vicissitudes of weather, and hence eminently fitted for a life of agricultural industry or other active employment, this fine race, instead of legitimately developing the powers which have been given to them, devote their lives to the unprofitable end of herding a number of buffaloes, the only use of which is to produce the small quantity of milk required for the use of the few families which congregate together in each Mund, and to furnish sacrifices to the manes of any one of their male proprietors who dies. Their herds are a nuisance and a pest to the district, for being exceedingly wild and ferocious, especially to Europeans, they frequently attack persons travelling in the high roads when not attended (as is generally the case) by a herdsman, and serious accidents occasionally result.

Whatever may have been the attributes of the Todars when Europeans first became acquainted with them, they appear at the present time to be decidedly as indolent, mercenary, and sensual as any of the worst tribes in the plains, and but for the meretricious interest which attaches to them through their singular mien, costume, and habits of life, and the mystery in which their history is enveloped, they would be deemed a perfect cumbrance to the soil.

Their religion is of course Pagan, and engenders the usual superstitions and prejudices. They have no distinct "samee" houses, or places of idol worship, but devote to this purpose the dairy or hut in which they keep their milk, ghee, &c., and in which they offer, by libation, to their deity such milk as is not consumed in the daily use of the tribe.

Their domestic rites are as strange and barbarous as is all connected with this singular people. The wife of one amongst several brothers is common to the whole circle, and every woman besides her husband has a certain number of gallants who reside with her at pleasure, and by terms. To such practices as these it is doubtless to be attributed that this race does not increase in numbers, and is evidently deteriorating in physical endowments.

The great mass of the Todars inhabit the valleys and woods to the westward of the plateau, being confined, with the exception of 5 inhabited Mundas, in Parumgenaad, and 2 in Megkenaad, to the division called Todanaad. And it will be seen by the map that in this portion of the plateau their Mundas are principally congregated to the westward, apart from the villages of the Burghers, only a few in the neighbourhood of Ootacamund and to

the northward, being interspersed amongst their cultivated lands. And to this portion of the Hills, *viz.*, to the extreme westward, it would be highly desirable that the whole tribe should be restricted, as they would have the benefit there of abundance of excellent pasture land for their cattle, and being there entirely apart from the other inhabitants of the Hills, would be free to carry on their rites and superstitious observances without hindrance from others, and without the possibility of causing annoyance to the rest of the population.

It has been distinctly stated to me by the Todars, Burghers, and the Talook civil authorities, that the Burghers whose villages are situated in Todanaad have to support, by payment of the "goodoo" all the Todars who occupy Munds in that division, without aid from the Burghers of the other two Naads, who are only bound to maintain the Todars who actually reside within their respective limits.

Hence an apparently palpable injustice to the Burghers of Todanaad, since, as will be seen by the census returns, the tribe are pretty equally distributed throughout the 3 Naads, whereas out of a total of 337 souls, of which the tribe of Todars at present consists, only 42 are located in Parumgenaad and 10 in Megkenaad, while all the rest, amounting to 285, are located in Todanaad.

This seeming difficulty in equalizing the infliction of the "goodoo" impost is overcome in the following manner:—As soon as harvest is over, and the "goodoo" collected in Todanaad, the Todarmen of that division pay visits to the Munds in Megkenaad and Parumgenaad, and take up their abode with the women of the community (to the temporary exclusion, as is their custom, of the legitimate husband.) They then pay visits to the surrounding Burgher villages, and demand, in their right as temporary husbands of women of the Naad, the "goodoo," which, strange to say, is paid; and thus the same man, perhaps, who has laid a whole village in his own Naad under contribution, goes the round of the other two Naads, appropriating the fruits of the Burghers' labour and industry, and carrying off enough grain to support his whole community in idleness and plenty, until the arrival of the next year's harvest time, and to produce by sale in the nearest bazar sufficient money to pay the tax or "Poollooverry," which is levied yearly on their tribe. I should have refused credence to such a statement had I not received it on the best authority, that of the Tehsildar of the district.

The habits of the Todars are migratory, almost every community or particular group of families consorting together, having two or more Munds or villages belonging to them, between which they divide their time according to custom, fancy, the state of the weather, or other circumstances, such as the death of one of their body, upon which occurrence they immediately migrate to another Mund.

The grass upon which they pasture their buffaloes is of a coarse, rank description, fit only for these hardy and powerful animals; but by burning it down, as is their practice, just before

the rains set in, when they are about to migrate to another Mund, a fine tender young grass, highly nutritious as pasture, has replaced the ashes of the old grass by the time they return to the Mund round which they had run their fires.

According to their own statements the fine breed of buffaloes which seem peculiar to the district is rapidly decreasing, murrain and other diseases having of late years carried them off in far greater numbers than are bred to supply their places. Doubtless the system of perpetual in-breeding aids in their deterioration.

There are some Todar Munds on the Koondah mountains, but as that range is not in this Talook, no information relating to them can be gained until the Survey has been extended in that direction.

While speaking of the Todars' buffaloes, I should mention that a few only of the male calves brought forth by their cows are preserved for perpetuating their stock, and all the rest killed while young, and eaten by the Todars themselves. If these calves were castrated and reared, they would be most admirably suited, from their great strength, to drag proper iron ploughs over the steepest and most difficult ground.

The Todars pay an annual tax to Government of 9 annas and 5 pice per head on all the female buffaloes herded by them, the bulls being exempt from tax; and in addition to this they pay a small assessment on grazing land, called "Pooloverry" or grass tax, at the rate of one quarter of the sum fixed as the lowest class assessment for cultivated land per bullum, the quantity of land which they are called upon to pay being estimated according to the number of buffaloes herded at each Mund, at the rate of about 10 bullums per hundred head of cattle.

The amount of revenue collected from the Todars in 1847 was on									
account of tax on Buffaloes,	..	...	...	...	...	..	...	Rs.	1,300
And ditto on Pooloverry,	...	...	...	...	...	...	...	„	400
									<hr/>
Total,									Rs. 1,700
									<hr/>

The Kotherers rank next to the Todars, according to common traditin, in seniority as occupants of the Neilgherries. They are of low caste, equivalent to that of the Pariah in the plains, and consequently are always found dwelling by themselves in isolated villages, of which there are only 6 on the plateau of the Hills, and generally called after the race "Kothergerry." Around each village they have lands considered and admitted by their Burgher or Todar neighbours to be exclusively their own, no disputes about boundaries, or the right to certain tracts, occurring amongst them at any time, so far as I can learn.

The Kotherers are an exceedingly industrious and useful race. They give all their time to husbandry when the land calls for their care, but when the seed is in the ground, and

their time disposable, they employ it in all sorts of mechanical avocations, repairing the ploughs of their own and the neighbouring villages, as well as bill hooks, mamoties, and all other farming implements, and executing a great variety of smith's and carpenter's work.

It is by these people that the buffalo and other hides of Hill cattle, which are so much prized by the workers in leather in the plains, and which should form a very important item in the export list of the district, are dressed and prepared for the purposes of commerce, the Kothers being very expert curriers.

In common with the Burghers they pay "goodoo" in grain to the Todars of their Naad, in acknowledgment of their feudal proprietary right over the land which they till, and which it appears the Todars, in spite of their own purity, and the uncleanness and low caste of the Kothers, do not hesitate to receive and eat, though no Burgher would touch grain so polluted.

The Kothers are not extensive cultivators, bringing only land enough under the plough to yield the quantity of grain required for the use of the village, with a small surplus which they barter with the low country traders for iron to carry on their forges. Hence by far the greater part of the land to which they lay claim in the vicinity of their villages remains waste, and is likely to do so as long as the present proprietary system remains in force. In some parts of the Hills this land is of a very fine description, which they say is owing to their having come the first of all the agricultural tribes to the Hills, and hence enjoyed the privilege of selecting the best land.

Their religion is of course idolatrous; their marriage customs and ceremonies similar to those observed in the plains, without plurality of wives or husbands.

They are impure and dirty in their habits, eating the flesh of buffaloes and cattle which die by the roadside or in the jungle: hence their neighbours, the Burghers, though living ostensibly on amicable terms with them, account it pollution to eat with them or associate with them in their households.

They breed small cows and bullocks, but no buffaloes, and they have a singular practice of never taking the milk from the cow, but allowing the whole to go to the calf, which they kill and eat on feast days, or days of rejoicing.

In general, it seems remarked that the Kothers are by far the best husbandmen on the Hills, ploughing and dressing their land with more care and skill than are shown by the Burghers, and managing their farms in all respects better.

The total number of Kothers up to December 1847 was found to be 307 souls,  
of which 157 are males,  
and 150 females,  
including children of both sexes.

The Burghers, or "Buddaghurs," signifying literally "people from the North," are supposed to have emigrated to the Neilgherries from the northern part of Mysore during a season either of famine or of political persecution, and finding the soil good and its pre-occupiers peaceable and disinclined to molest them, they settled on it, and meeting with success in their agricultural operations, they induced others of their countrymen to follow them, and thus formed the nucleus of the numerous tribe now recognized as the chief and most important portion of the Hill population.

Their villages, which have been already described under another head, are scattered all over the plateau of the Hills, excepting the portions to which I have already adverted as inhabited exclusively by the Todars, *viz.*, adjoining and to the westward of the Pykara river, and in the north-east portion called Kodanaad; and they arrogate to themselves the right of proprietorship over the whole of the land in Parrungenaad, with the exception of the tract called Kodanaad, a small portion contiguous to a Todar Mund near Coonoor, and another round a Mund under the Hill called "Koondarnogay;" and over the whole of the land in Megkenaad, with the exception of a tract near a Mund at Hoolicall, another at Kartairy, and another near Porthy, under the Hill "Attabagel:" as also, with the exception of the Kothers' lands, in both Naads. A considerable portion of Todanaad, principally to the north, also belongs (by the same questionable right) to the Burghers, and as it will be seen by the Table at page 1, that the total quantity now actually under cultivation amounts to only 23,772 acres, it will be evident that they (nominally) hold a vast quantity of land wasted and misappropriated. They nevertheless produce a good deal of grain, sufficing for their own wants and those of the Todars, and leaving a considerable surplus, which they sell or barter with the low country traders for cloth, tobacco, salt, and other necessaries. Could example or precept induce them to adopt a better and more organized system of tillage, the quantity of grain which they produce might be vastly increased, as I have ventured to remark under another head.

They pay "goodoo," or tribute, to the Todars resident in their respective "Naads," but the amount of this "goodoo" is evidently a very varying quantity. It seems from their own statements that when the Todars pay their annual visit to collect the "goodoo," each house in the village contributes according to the circumstances of the occupant, an opulent family usually giving about one cundagum = 20 kolagums of grains of all kinds, and poorer families contributing  $\frac{1}{2}$  or  $\frac{1}{4}$  cundagum according to their means. Sometimes the offerings of the poorer inhabitants are not considered sufficient, and sometimes they refuse to give any thing at all, when confusion ensues, the Todars entering their houses and insisting on the "goodoo" being paid. If such occurrences really do take place, it seems likely that the interference of the civil authorities of the district will before long become necessary either to legalize the exaction of the "goodoo," or to put a stop to it, since, as the law seems at present to stand a Burgher from whom a Todar attempted to enforce its payment would have a clear right,

the protection of the Police, who would be bound, I should imagine, to treat the Todar as a trespasser. Such contradictory statements, however, are made by the Burghers that it is most difficult to arrive at the truth in this matter of the "goodoo," or indeed in any other in which their interests are concerned, however remotely.

One circumstance, however, seems decidedly to support the statement of some of my informants, that they consider the "goodoo" in the light of a free-will offering, or donation, to "Reecheykarur," or beggars, and not as an impost exacted of right. When they make sales of land, within the limits of what they consider their territory, to Europeans and others, no stipulation is ever made on behalf of the Todars for the payment to them of "goodoo" out of the produce to be raised from the soil by the purchaser; nor do the Todars themselves ever come forward to urge such a claim, or take any notice of such alienations of their rights and property.

Many of the Burghers are said to be (for natives) very wealthy men, and this circumstance perhaps has induced amongst many of them habits of sloth and sensuality inimical to their moral or physical improvement; but, nevertheless, speaking of the tribe as a whole, it must be admitted that they are an industrious race when their necessities compel them to labour for their livelihood, and to constitute what may be termed the rural labouring class of the Hill population.

The Burghers are very illiterate, the accomplishments of reading and writing being rare amongst them.

Their religion is Hindoo, and they are of the Siva sect; but a portion of the tribe is sub-divided into several orders or sects, such as Lingavunts, Hodiars, Konukars, Arroovars, and Toriars, the last being the poorest, and therefore the labouring class of the tribe. The god Rungaswamy, whose temple is situated on the famous "Rungaswamy's Peak," the easternmost point of the Neilgherries, is their principal deity; but they have, besides him, many other divinities, as well as goddesses. Their ceremonies of marriage and burial do not differ essentially from those observed amongst the Hindoo tribes in the plains, and such differences as exist, and which are only under the first head, are only remarkable for their indelicacy, and are not worthy of notice.

The Burghers are a most superstitious, timid race, perpetually filled with the dread of evil spirits hovering around them, and ever haunted with fear of the "Coorumburs," (a tribe to be hereafter described,) to whose necromancy and demoniac influence they attribute all accidents and infirmities which befall themselves, their families, cattle, or crops. To such an extent is this feeling carried, that murders of the most brutal description have been known to be perpetrated upon the unfortunate Coorumburs, for which, although in general it is found difficult to obtain evidence to convict the perpetrators, Burghers have been tried and executed, much to their indignation and astonishment, since the principle inculcated amongst

them appears to be, that to sacrifice a Coorumbur (and in some cases whole families of them,) through whose preternatural agency disease has been brought into a village, or murrain amongst their cattle, is the only way in which the evil can be averted, and the anger of the deity of destruction appeased. Yet notwithstanding this intuitive horror of their influence over the common affairs of their lives, they regard the Coorumburs with the utmost consideration in many other respects, looking upon them as priests, or rather enchanter, whose favor must be propitiated to secure their intercession with the geniuses of good and evil in their favor.

For example, in the spring when a field is ready for the seed, the work of husbandry cannot proceed until a Coorumbur has been summoned, a kid sacrificed to a goddess equivalent to Ceres, the soil blessed, and the first handful of seed scattered over it by him.

In like manner a Coorumbur must drive the first plough a few paces before their work of tillage commences, and at harvest time not a grain or ear is reaped until a small sheaf has been cut by a Coorumbur. For these offices the Coorumburs receive gifts in money and produce, and finding their interest in the existence of these superstitions, doubtless encourage them by all the means in their power which they can safely employ.

The Burghers seem to live in great harmony amongst themselves, ruled by their headmen and elders. They are fond and careful of their families, and pay great respect to the aged; but in character they appear deceitful, ungrateful, and false. Their women and children all labour in the fields at the time of harvest, as well as in preparing the ground for seed; and by this combination of industry it is easy to foresee to what a successful extent their farming operations might be carried, if a better system of husbandry could be introduced amongst them.

The total number of Burghers resident on the Neilgherries, in December 1847, has been found by the census to be as follows :—

Males	...	...	...	...	...	3,346
Females	...	...	...	.....	...	3,223
Total souls						<u>6,569</u>

including children of both sexes, viz.,

In Todanaad	...	...	...	...	2,039
„ Parrungenaad	...	...	.....	...	2,377
„ Megkenaad	...	...	...	...	2,153
Total souls					<u>6,569</u>

The number of this singular tribe is small, amounting only to males 225

The Eurlars.

females 236

Total souls 461

including children of both sexes.

They are found principally in the eastern part of the Hills, where they cultivate the lower slopes, forming the broad deep valleys which run in the vicinity of Rungaswamy's Peak towards the plains. They raise crops of raggee, korally, samee, mustard seed chiefly, but to no great extent, being very improvident in their arrangements, and eating up all their produce at once, without laying any by for the rainy season, when they subsist chiefly on plantains, jack, and other fruits, which they cultivate in patches near their villages, and which thrive, in consequence of the lower level on which the Eurelars are mostly settled. They also work occasionally as coolies on plantations, preferring employment in the jungle to working in the field, and being expert fellers of trees, hewers of planks, rafters, &c. They worship Rungaswamy and some other inferior deities, and enjoy the high privilege of tending the temple and idol on Rungaswamy's Peak, where two or more of their number officiate as priests at the period of the great festival in August and September, when thousands of Hindoo pilgrims flock to the sacred Peak from all parts of the adjacent country, with offerings of all descriptions of produce, and occasionally money.

They pay kist to Government according to the nature and quantity of their crops, but they make no offerings to the Todars in the shape of "goodoo," probably from their occupying land rather below the plateau to which the Todars lay claim.

When driven to extremities for food, the Eurelars betake themselves to the jungles on the slopes of the Hills, and seeming to have no fear of wild beasts, hunt and destroy sambre, spotted deer, jungle sheep, and other game with great expertness. They also search for bees' wax, which finds a ready sale in the plains; but many lose their lives in this pursuit, through the bears, which are numerous in the eastern part of the Hills, and whose fondness for honey often brings them into contact with the collectors of wax.

The Coorumburs are not, strictly speaking, a tribe of mountaineers, since many sects of the same people are found in various parts of the plains, especially towards the southward and westward; and those who do frequent the Neilgherries inhabit the lowest slopes, and are perpetually migrating from spot to spot, erecting their little huts usually on grassy patches in the midst of the densest and most wild forests. Those who are met with on the eastern side of the Hills are called "Mooloo Coorumburs," implying "thorny" or jungle Coorumburs, to distinguish them in some degree from the Coorumburs of the west country. They are small in stature, and their squalid and uncouth appearance and wild matted hair might seem to give some cause with so timid a race as the Burghers for imputing to them the fiendish and preternatural powers with which their superstition invests them. If a Burgher meets a Coorumbur, not summoned at seed or harvest time, in his path, he will fly from him as from a wild beast, and if too close to escape his dreaded glance, he will return home and resign himself to a fate which he deems inevitable; often, in fact, inducing sickness by the prostration of body and mind which is thus supervened.



I may here mention that a popular belief exists that the Coorumburs have an equal proprietary right in the soil of the Neilgherries, having come to them at a period coeval with, or antecedent to, the migration to them of the Todars.

The Coorumburs cultivate some land on the lower slopes of the Hills, and raise small crops of dry grain, but they depend for their supplies chiefly on the fees in kind, which they receive from the Burghers for the offices performed by them in consecrating their crops and seed, as has been already described in treating of the Burghers.

Those, however, who are met with in the forests on the western slopes of the Neilgherries, are more industrious, employing themselves chiefly in felling timber for the sawyers and contractors, in making baskets, and, to a small extent, in cultivation. These Coorumburs appear for the most part to come from Malayalum, where they exist in a state of slavery to opulent natives, who claim their persons as their property,—a claim, however, not much regarded.

The Coorumburs, from their almost always residing amongst the forests, have a considerable acquaintance with the properties of medicinal herbs, gums, and roots, and hence often effect cures of simple diseases amongst the Burghers and others when called in to disenchant a member of a family supposed to be bewitched. This success is of course attributed to preternatural agency, and a failure in their mode of treatment of a disease is usually set down to its baneful exercise,—a result which often leads the officiating Coorumbur into trouble. As has been already remarked, it has been found impossible to obtain any return of the number of this tribe, but it must be very inconsiderable.

In the preceding description of the different tribes inhabiting the Neilgherries, their habits have been sufficiently set forth to explain the nature of the employment or occupation which each pursues. Following, however, the argument of this synopsis, it may be necessary under this head briefly to recapitulate them.

#### 1st. Of the *Todars*.

Their occupation is purely pastoral, their only manual labour being the milking of their buffaloes, and converting portions of the milk into butter and ghee. They let their herds loose during the day to wander about, almost always unattended by a herdsman, to the annoyance of travellers on the public roads; and but for the caution observed in approaching these animals, to their great danger.

The life they lead is eminently a most idle and useless one, involving the performance of no offices, and the undertaking of no duties, which tend in any way to the benefit of the community at large.

Especially marked by nature as a race upon whom labour demanding great physical exertion and bodily powers should devolve, they are found abjuring the performance of manual labour of any kind, subsisting upon the hard-won earnings of others, and acting no part in the great work of social duty and improvement which society demands that all its members should co-operate to advance.

2nd. Of the *Kothers*.

Their occupation is both agricultural and mechanical. They are tolerably good workers in iron, and execute carpenter's work in a rough way. They tan ox and buffalo hides and make baskets, and their women manufacture the only earthen pots or chatties produced on the Hills.

3rd. Of the *Burghers*.

Their occupation is solely agricultural, and their numbers having of late considerably increased, there is always a superabundance of hands available for employment as carrying coolies and out-of-doors labourers, when their own crops are either in the ground, or reaped and stored, which constitute them the most really useful tribe on the Hills.

4th. Of the *Eurelars*.

5th. Of the *Coorumburs*.

Their employment is agricultural, and also in a measure vagrant; since lacking sufficient energy or industry to draw from the soil the utmost of its productive powers, they subsist between harvest and harvest upon whatever they can extract from the natural resources of the forests through which they wander.

The Neilgherries being situated within the limits of the Coimbatore District, Tamil is the language employed in the public departments and in the bazars, and other resorts of the natives from the low country; but amongst all the Hill tribes, Canarese is the colloquial. The Todars have a language peculiar to themselves, but they communicate with the Burgher and other tribes in Canarese. The Todar language has a singular accent and a quaint original style, and seems to bear no analogy whatever to that spoken by any other race of natives in Southern India. The Coorumburs have also a peculiar dialect of their own, but it seems to be based on the Canarese.

Under this head a very favorable report may be made, as, with the exception of the two inferior tribes, the Eurelars and Coorumburs, who, from their improvident and vagrant mode of life, are often in a state of great destitution, all the Hill tribes live in comparative comfort and affluence. This is as to their physical condition, but in regard to their moral state the aspect is not so favor-

able. The accomplishments of reading and writing seem almost entirely unknown amongst them, while their morals are tainted by the arts of dissimulation, cunning, and falsehood, which seem to be instilled into their minds at an early age.

Superstitious to a degree almost incredible, and prejudiced against all innovation and improvement, I fear they offer but a barren field to the German Missionaries who have established themselves on the Neilgherries to labour amongst the Hill tribes, and who are endeavouring to form village schools in the hope of inducing parents to send their children to them for instruction in their own tongue.

Upon this point it is not easy to obtain correct information, as all the natives have an insurmountable aversion to entering a Hospital, and though they value and respect the opinion of a Medical officer, they are not found to come voluntarily forward to seek assistance and advice.

Health and Disease.

From observation in their villages and of the coolies and labouring men who come to the houses of residents for employment, inferences can alone be drawn, and these lead to the conclusion that all classes and castes of natives on the Neilgherries, whether aboriginals, or modern settlers, enjoy the most robust health, showing that the pure atmosphere and invigorating climate have the same genial effect upon the Native as upon the European frame and constitution. The most prevalent diseases amongst the Burghers, who may be considered the mass of the Hill population, are small-pox, fever, and ague, and an affection of the eye resembling ophthalmia. The first of these is, however, the only one which can be called common amongst them, and is the greatest scourge by which they are visited; and as vaccination is not practised amongst them, the disease often makes fearful ravages amongst their villages, carrying off a whole family with the rapidity of a more fell distemper. Pretty constant exposure to the weather naturally renders these mountaineers hardy and robust; and hence vicissitudes of temperature, and of dry and wet, produce little or no disturbance in their animal economy.

I have no doubt the mountaineers would willingly take advantage of the existence of a Vaccine Dépôt if one were to be established on the Hills; and as the small-pox certainly seems local and peculiar to the region, and as it is totally impossible for the two Medical officers stationed in Ootacamund to quit the scene of their constant and extensive duty amongst the sick officers and their families resident there, to introduce and practise vaccination amongst them, it would certainly seem to be a great desideratum that such an institution should be formed. There is every reason to believe it would be the means of saving many lives.

The people of the Hills appear rarely, whether male or female, to attain an advanced age; old men and women being very rarely seen in any of the villages, whether of the Todars, Burghers, or Kothers.

The impending measure of locating European troops on these Hills will, it is to be hoped, before long furnish striking and favorable evidence upon this subject. At present it can only be inferred *a priori*, that as a residence of even a few months on them produces such an extraordinarily renovating effect on the constitution as is almost daily witnessed in the case of European officers sent to them for change of air, a most beneficial result must ensue to the troops from this wise and benevolent measure, benevolent not only to the men, but to their unfortunate wives and children, who will in this climate escape most of those hardships and sufferings which fall so cruelly upon them in the plains; and wise because by its operation the troops will be brought into a more efficient state for active service, and because it will tend to save lives whose loss is most costly to the State.

A permanent school for the education of the soldiers' children will doubtless soon follow the establishment of a cantonment, and become in this excellent climate a most important and valuable institution, not only tending to save the lives of the many children which at present perish in the barracks in the plains, but becoming the means of training them up so as to furnish hereafter useful servants to the State.

I would here remark, with deference, that, judging from personal experience, I should think that much care and attention will be demanded in the first instance in the management of the troops, avoiding very early morning and late evening parades, and making all guards and sentries put on boat-cloaks before sunset and wear them until after sunrise. The site which I have had occasion to recommend for the new cantonment, and which I understand has been adopted, is situated at an elevation of 6,100 feet above the sea, and enjoys a most temperate and agreeable climate, but the rapid change of temperature which follows the withdrawal of the sun's rays, equally with their first action at sunrise, which is felt in the Valley of Jakatalla as in other parts of the Hills, demands care and precaution, and especially in the case of convalescent men, or those whose constitutions, and liver especially, have become injured by long residence in the low country.

The climate of the Neilgherries appears somewhat favorable for the cure of dysentery, especially in the dry months, and on the eastern side of the Hills, as at Kotergherry and Coonoor; patients from the low country suffering from this disease seldom, if ever, fail, I believe, to recover speedily, if cautious not to expose themselves too much to the sun and to the dry piercing easterly winds and rains.

Indeed, there appear to be few diseases contracted in the low country which are not, unless too far advanced, speedily cured here, except liver complaint, which, if abscess has been already formed, usually assumes a more aggravated form after a short residence here, and compels the patient to proceed to sea, or at all events to quit the Hills. In the opinion of Medical men this is caused by the cessation of the profuse perspiration which takes place

in the plains, and which here is not experienced at all unless exercise on foot is taken to a proper extent.

Amongst the Hill tribes it may be said that there is no education whatever. The German Missionaries, referred to in a preceding section, are now endeavouring to establish schools amongst the Burghers, and to prevail upon the parents to send their children to them ; but I understand with very indifferent success up to the present time. The Burghers have so little ambition or desire to see their children rise beyond the position in which they are born, that reading and writing are looked upon as very unnecessary accomplishments, and with the Todars such a thing as education, or interesting themselves in any matters whatever beyond the sphere of their own interests and concerns, is quite out of the question.

The Kothers, Eurelars, and Coorumburs are equally degraded in regard to education, or to the desire to acquire it.

Amongst the Native settlers from the plains the case is very different. In Ootacamund there are 4 Native schools, of which 3 are conducted in the Tamil language and 1 in Teloogoo, which are attended by all the children whose parents can afford the small fee payable to the school-master. The instruction imparted in these schools is of course confined to reading, writing, and a sort of arithmetic.

There is also a very good school, conducted by an European, for the education of the sons of Europeans and East Indians, which is supported by contributions, and is under the general superintendence of the Chaplain of the Station for the time being. It is situated in Ootacamund, where also two seminaries have been recently established for the children of the better class, one for boys, and one for girls, both of which, I believe, are well supported and prove a great advantage to officers and others whose means will not admit of their sending their offsprings to England when they have attained the age beyond which it is considered unsafe to keep them in the plains.

It has been in contemplation to establish a proprietary school upon a large scale on these Hills, with a view to rendering the expense to parents as small as possible, while at the same time the best system of education is adopted in the establishment ; but owing to pecuniary difficulties this excellent scheme remains for the present in abeyance.

Excepting the Government Hospital and the dispensary there is no charitable institution, properly so called, on the Hills.

There is an association amongst the European residents of the Cantonment for granting out-door relief to aged and indigent poor (Natives) who attend daily at the door of the church to receive it in the form of food, money, or clothing ; but there is no establishment into which paupers are received and sheltered.

The public choultry, or caravanserai, is intended more for the accommodation of travellers and market-men from below than for a refuge for the sick and poor.

The Hospital is in charge of the senior Medical Officer, but owing to the prejudice which exists amongst the Natives against such an institution, a patient is very rarely received within its walls.

The most fruitful sources of litigation are disputes about boundaries of land, trespassing of cattle, and adverse claims to the right of water from particular channels.

State of litigation and of crime.

These, especially in the Cantonment, run very high at times ; but it is to be hoped that the permanent fixing of all boundaries by means of the present Survey, will put an end to these differences in a great measure.

Crime is certainly not common on the Hills, as beyond cases of petty theft,—and these for the most part confined to the Cantonment,—the general criminal calendar is a very light one. Murders have been committed, and possibly are so still, at rare intervals, upon the persons of unfortunate Coorumburs accused of witchcraft, by both Burghers and Todars ; but as such deeds are generally massacres perpetrated by a whole village, it has frequently been found impossible to trace the actual murderers. Upon the whole, it must be admitted that, in spite of their proneness to lying and dissimulation, all the tribes inhabiting these Hills are free from the stain of serious crimes. Drunkenness and violence are unknown amongst them, and in this respect they offer a striking contrast to the other Native residents, who, both Malabar, Mysoreans, and other emigrants from the plains, are much addicted to spirits, which are unfortunately to be obtained readily, and at a very low rate.

With regard to the Cantonment of Ootacamund when the peculiar nature of its Native population is considered, consisting as it does of petty traders, Brinjarries, Lubbies, and servants of all castes and from almost every part of India, combined with the means which all classes possess of obtaining arrack and also opium, it must be esteemed very creditable to the authorities that so little crime is committed within its precincts. That such should be the case is doubtless chiefly to be attributed to the constant presence of a Magistrate, (who is also Commanding Officer of the District,) aided by a Tehsildar and Cutwal resident on the spot, around which the bazars and residences of the people are drawn so closely, and so little scattered, as to bring them all readily within the range of a close surveillance.

Police—number, remuneration and efficiency.

The Police of the Neilgherries consist of:—

The Joint Magistrate,  
The Tehsildar,  
The Cutwal of Ootacamund, whose duties are confined to that station,  
A Peishcar, who has charge of the Eastern part of the Hills,  
Five Duffadars,  
And 75 Peons.

But of these two last, three Duffadars and 43 Peons belong also to the Sebundy establishment, and are employed at the proper season in collecting the revenue.

Six Peons also are exclusively employed in the charge of the forests which are scattered about the environs of the Cantonment, to prevent wood-cutters from wantonly destroying them, or cutting in parts where it is forbidden.

Besides these, two Duffadars and 20 Peons, under the immediate orders of the Cutwal, remain in Ootacamund to carry on the Police duties of the  
Remuneration. bazars.

The Tehsildar receives	50 Rupees per mensem.
„ Cutwal „	42 „ „
„ Peishcar „	17 „ „
„ Duffadars (Cutwal's)	10-8 „ „
„ Ditto (Sebundy)	7-0 „ „
„ Peons, 1st class	5-0 „ „
„ „ 2nd „	4-0 „ „
„ „ 3rd „	3-8 „ „

The orderly state of the chief settlement, Ootacamund, sufficiently attests the efficiency of the Cantonment Police, as does also the comparative  
Efficiency. absence of crime in the Hill District generally, that of the Sebundy or Rural Police.

There are no manufactures carried on on the Hills unless a few earthen vessels made by the tribe of Kothers, and principally at a village near Sooloor  
Commerce—Manufactures. to the westward of Mootenaad, may be called by that name. From the great command of water power all over the District, however, and especially near the summits of the Passes, many of the products of the plains requiring to be wrought by heavy or steadily driven machinery, such as cotton for yarn, oil seeds, &c., might no doubt be profitably wrought on these Hills or on their lower slopes. Wheat raised on them might also be ground into flour by machinery turned by water, very economically, and it seems strange that at the present time, although a large quantity of flour is consumed in the settlements, and considering how many Europeans, who must have some knowledge of ordinary machinery, are resident in the Hills, not one flour mill is in existence, all the wheat being ground by the ancient mill consisting of two circular stones, the lower one being fixed and the upper turned by a man by means of a peg or upright handle.

No capital, to any extent, is invested on the Hills except in the mulberry and coffee plantations, and this does not at the present time appear to  
Capital employed. have reached an amount of consequence, to which may also be added money sunk in the erection of houses, the return on which, on an average of years, appears to be about 15 per cent.

## Imports.

batore :—

The following articles are imported into the Hill District from the adjacent provinces of Malabar, Mysore, and Coim-

Cotton cloth, salt, tobacco, sugar, oils, turmeric, rice, arrack, salt fish, cocoanuts, almonds, dried fruits, sheep, bullocks, poultry, gunpowder, sulphur, lime, artificers' tools, furniture, horse gram, ragghee, chollum, betelnut, ghee, spices, limes, and all descriptions of supplies. Also of *European articles* :—Wines and spirits, wearing apparel, cambric and woollen cloths, books, stationery, earthen-ware and glass, hard-ware, groceries, candles, beer, and porter, and all kinds of supplies for the table.

To this list, strange to say, is to be added *wheat*, which is imported to some extent from Mysore, where it is cultivated on the higher levels. The bakers buy it because it is cheaper than the Hill wheat, although not nearly so good, and mixing it with the corn purchased from the Burghers, turn it to profitable account. There is generally a difference of seers per Rupee in the prices of the Mysore and Hill wheat in favor of the former, in spite of the distance over which it has to be carried before it reaches its market, which tends to support the idea of the mis-appropriation of this district through the ignorance and apathy of the Hill cultivators.

## Exports.

The exports are coffee, silk, potatoes, barley, hides, opium, wax, dammer or resin, and wheat, which being bartered by the Burghers for low country necessities with the itinerant traders, thus becomes an article both of export and import.

No statement can be furnished regarding the quantities of the above recited goods which are imported and exported, since, in consequence of the transit duties having been abolished, they pass through no office in which their amount might be registered.

## Exchange.

Money is readily obtainable for Bills on Bombay or Madras from the Native merchants, who, having disposed of their goods on the Hills, are anxious to remit the proceeds for re-investment. Hence cash in such bills is generally obtained at par, or at the utmost at 1 per cent. discount.

No other exchange operations are carried on in the settlement, all business with England being transacted through Agents at Bombay or Madras.

## Weights and Measures—Weights.

The weights in use in the bazars of the three Settlements, are—

The maund of 25 lbs. Avoirdupois  
 The viss „ 2 „ ditto.  
 The seer „ 25 Rupees weight.  
 And the pound of 40 „ „



The Burghers sell all their produce by measure, excepting opium, which they rate at so much per seer of 24 Rupees weight, being one Rupee under the seer of the Bazaars.

The bazaar measures are the common seer in use all over the country and the  $\frac{1}{2}$  seer &c. The Burghers sell their grain by the "kolagum,"  
 Measures. (described at page ) the contents of which measure, when heaped up to an apex, as is the custom, 226 cubic inches, being equal to 2 seers of 113 cubic inches.

The Coins issued from the Hon'ble Company's mint are the only ones circulated on the Hills, viz., (silver) rupees, half rupees, quarter rupees, and two anna pieces, and (copper) quarter anna pieces, half anna pieces and pice. It is supposed that a good deal of coin goes out of circulation in the district owing to the Burghers either hoarding it by burying it, or otherwise secreting it, or by getting it converted into ornaments.  
 Coins.

A Bank was recently established in Ootacamund, but it failed in consequence, I believe, of the ignorance and want of standing of the managers.  
 Banking operations. But considering that there is almost always a large community of Europeans, chiefly in the service of Government, congregated at the station, together with a not inconsiderable number of Native traders possessed of capital, it seems obvious that, if conducted upon proper principles, and by parties of mercantile respectability and intelligence, such an establishment could not fail to prosper, and to prove a source of great convenience and benefit to the public.

Money is lent in the bazaar by Native merchants to others at the usual usurious rate of interest; 2 per cent. per month being demanded for loans with security of jewels or other valuables, and 3 per cent. per month on personal security only.  
 Lending and borrowing.

The Neilgherries are ascended by six Passes or Ghauts, the roads in which have been cut and are kept in repair at the public expense, with the exception of one, the Manaar or Soondaputty Ghaut, which has now gone out of general use. The only one of these Ghauts which is used by wheeled conveyances is that from Mootenaad by Kulhatty to Seegoor; with this exception, the mode of transit for all goods from the plains is by bullocks and asses. By the Seegoor Ghaut, however, cart-loads of 2 candies or 1,000 lbs. weight are brought up the Hills, an additional pair of bullocks being required to help the cart over the steepest parts of the ascent.  
 Modes of transit and communication by land.

Commencing with the north-western angle of the plateau, the first for description is the Goodaloor Pass, leading from Neddivettum to Goodaloor, and forming the communication with Cannanore, Tellicherry, and the western coast as far as Bombay, through the Wynaad country.  
 Goodaloor Pass.

It is also the high and most direct road to Calicut, descending the Carcoon Pass, and passing through Nellumboor, and parallel to the Beypoor river to the coast. The Koondae Ghât having, however, obtained a preference over this line for the journey to Calicut, the tappel runners have been taken off it, and laid on the other; and the consequence is, that the ferries by which the road is connected across some large streams are not regularly attended, and from want of regular traffic along it, it is falling out of repair, and the jungle becoming rank and dangerous both from malaria and beasts of prey. The bungalows also along the line are badly situated as regards health, but this, I understand, will, before long, be obviated by the erection of a new one in an open space clear of the encroachments of the jungle, and free from fever. It is much to be regretted that this road should be allowed to fall into disuse, as the line is a most convenient one for reaching the Hills from the coast by Calicut, where all invalids from Bombay now land, and as the Ghât being a short one of only  $5\frac{1}{2}$  miles, and on a good trace, can be easily and economically kept in repair. The Rajah of Nelumboor is, I believe, bound to keep up the ferries between the Carcoon Pass and the town of that name, so that the expense of keeping this line open would fall lightly upon Government. The road on the Hills from Ootacamund to Neddittuttum, at the summit of the Pass, is excellent, and has been recently put in thorough repair, so as to be perfectly practicable for laden carts throughout. The Ghât is also in good order, and a laden bandy can descend it with safety, but the ascent is impracticable, in consequence of some very steep acclivities up which it is carried.

The Pykara or Moyaar River forming the boundary dividing the district of Malabar from that of Coimbatore, the road from them to the westward is under the Collector of the former province, by whom the greatest attention appears to be given to it.

This Ghât, which is the most frequented of all, in consequence of its being practicable for laden carts and other wheel conveyances, is carried down the face of the northern slopes of the Hills, commencing the descent near "Mootenaad" and ending it near the village of "Seegoor" at the foot. By this Ghât the communication is kept up with Bangalore, Madras, and all places to the northward, and the chief bulk of supplies of articles imported from Europe, and heavy baggage, comes to the settlements by it. It also affords the means of transit for the teak timber, in rafters, beams, planks, &c., from the forests on the confines of the Mysore territory near Tippacadoo and Musneumcoil, which are within the Coimbatore District. The trees are felled by Coorumburs and others, and are then, after being lopped and roughly dressed, dragged on wide bandies by buffaloes to Musneumcoil, where they are sawn and sent to Ootacamund on bandies by the Seegoor road, which passes through the village.

In the north-east angle, the plateau of the Hills, at Kotergherry is another Ghât communicating with Matepolliene in the province of Coimbatore. This is the oldest road cut for the ascent of the Neilgherries at the expense of Government, and led formerly to the original settlement at Dimphutty.

It has been constructed in a very sound and substantial manner originally, but having been neglected, it fell into very bad order, and it was found necessary last year to give it a thorough repair throughout, owing to which it is now in a very practicable state, though too steep for wheel carriages. This and all the other Ghâts could be kept in repair at a very trifling expense if some person were entertained, whose duty it should be to go down the entire line at least once a month with coolies to see that no drains or channels had got choked, or to clear them where required: for the interruption of one of these outlets from the heavy falls of rain which now and then occur, and which might, if remedied in time, be done by one man in an hour, often causes breaches in the road which it takes 20 or 30 men to repair.

This Ghât is of considerable importance to the eastern part of the Hills, as a great deal of traffic in the produce of the coffee plantations and of the Burghers' lands goes on by it; and large quantities of low country goods are brought up it for sale and barter. It is also favorably situated for the ascent of the Hills in the east side, as the ascent of a long spur, on which the lower part of the road is carried, is commenced almost immediately after quitting Matepolliene without having to pass through more than 2 miles of jungle. Troops, therefore, marching to the Hill cantonment could, by leaving their camp at Matepolliene before daybreak, ascend into a cool climate before the sun was high enough to distress them.

The Coonoor Ghât, on the other hand, which is the next to the eastward, does not commence its ascent until after 7 miles of low bad jungle have been passed, though after leaving Matepolliene. It is, however, the most frequented by travellers in palanquins and on horseback, as the road on from the summit, at the settlement of Coonoor, leads more direct to Ootacamund than that from Kotergherry, besides having the advantage of a public bungalow conveniently situated near Coonoor, whereas at Kotergherry there is none. The Coonoor Ghât has been very well constructed, especially the lower half of it, which could be ascended by laden carts with 4 bullocks. The upper part has not been so well carried, the gradients being more irregular and not so well arranged.

There is an immense traffic on this Ghât entirely by bullocks, which ascend it by thousands on the Ootacamund market day, and indeed on almost every day, laden with every description of supplies for Europeans and Natives.

Travellers from Madras and the South almost invariably come by this road, as the journey from the east coast by Salem is both the most easy, and occupies less time than by Bangalore and Seegoor.

The Mailur or Soondaputty Ghât appears in former years to have been much frequented by European travellers, journeying from the eastern parts of the Presidency by Coimbatore to the Hills, from which town there was a road to Soondaputty, a village at the foot of the southern portion of

the Neilgherries, though what the direction of this road was I am unable to say, as the country between Coimbatore and that part of the base of the Hills appears never to have been surveyed, and is left blank in the Atlas of India. This Ghât, which gains the summit of the Hills near "Shoondabetta," is only now used by smugglers, and by the Burghers who cultivate land about Mailur and Keel-Koonda, to carry down their produce for barter for cloths, tobacco, salt, &c. The remains of a very good road still exist from the top of this Ghât all the way to Ootacamund, but it has become impassable in many places, owing to bogs having formed in the hollows, and closed over it.

This magnificent Ghât forms the line of good communication between the western coast (Calicut) and the Neilgherries, across the Koondah Mountains. Viewing this latter tract as one likely to become, before long, of the greatest value and importance as a producing country, I should describe the Sispara Pass as one to which attention should be particularly drawn. Since, however, the Survey of the "Koondahs" has not yet been executed, it will be proper to defer a description of it and the public buildings and bridges which have been lately erected along the line of road by which Ootacamund is approached from its summit, until it can be introduced into the "Memoir" prepared to accompany the Map of that part of the hilly district: together with a Table of roads and distances from the nearest halting places in the Plains at the foot of the respective Ghâts.

Communication by water.  
Impediments, and their duration.

None internal, or naturally with any other district.

Impediments very rarely occur on any of the lines of communication to the Hills.

Sometimes in seasons of long-continued rain, masses of over-hanging rock, getting loosened by the washing away of the soil beneath, fall upon the road and cause some inconvenience, but never to the extent of suspending the traffic upon any of the Ghâts. The most serious impediments have been occasioned by the washing away of the bridges near the foot of the Passes, as at Tippacadoo near Seegoor, and Matepolliene during the past year. But a temporary remedy being at hand, only a brief suspension took place in the transit of goods along those lines of road.

Along the lines of road on the plateau diverging from Ootacamund to the summits of the various passes, impediments more frequently occur, owing to the perishable nature of the timber with which small bridges are constructed to carry the road over channels, and to the sinking of the rough stone causeways laid across swamps.

By degrees, however, a better system is being introduced, and more permanent works are now taking the place of these temporary and inefficient structures. It is unwise, and I think bad economy, to construct any road bridges on these Hills of jungle road, unless it

has been cut long before required for use and thoroughly seasoned, as the alternations of heat and cold are so very extreme, and the changes of weather from dryness to moisture so continuous, that the fibres of unseasoned wood soon yield to their influence. Only teak beams should be used, unless jungle wood can be cut and kept to season for use in convenient situations, or unless a brick arch is not considered expedient. Fords are numerous on the Hills, but are all insignificant as being merely the crossings of small streams, except near Pykara, where there is a good ford across the Moyaar, over a dyke of trap rock, which runs at right angles to the course of the stream.

Fords, ferries, and bridges. the Hills, but are all insignificant as being merely the crossings of small streams, except near Pykara, where there is a good ford across the Moyaar, over a dyke of trap rock, which runs at right angles to the course of the stream.

Ferries. The only ferry on the Hills is that near the public Bungalow at Pykara, for carrying the road to Neddiwuttum across the Moyaar. It is used by travellers in palanquins and on horseback, as also by carts; but the ford, which is close by, affords the readiest means of crossing to foot passengers.

The ferry boat, which consists of a platform laid on two canoes or barges, and is moved by hauling on a cable of twisted rattan stretched from bank to bank, is the property of Government, and 2 ferrymen to work it are maintained at the public expense, receiving Rupees 6 each per mensem. No toll is levied on passengers making use of it.

There is a substantial brick bridge at Coonoor crossing the great stream which descends the Pass. at that place; another on the Neddiwuttum road, about half way between Ootacamund and Pykara; one at Ootacamund, connecting the extremities of embankments, run out from bank to bank of the lake to form a road across it, and another at the entrance of the cantonment by the Coonoor road, over the stream which feeds the lake. These bridges are all single arched, but the span is inconsiderable, and they are not worthy of more particular description.

Two large and substantial timber bridges have been recently constructed on the Koondah road; one over the principal feeder of the Bowany, (called by the Burghers the "Porthy" or "Poruthy" river), and the other at the entrance of the "long valley" on the Koondahs, which, together with the bridges which occur along the Sispara Pass, will be described in the "Koondah Memoir."

There are innumerable small jungle wood bridges upon all the lines of road over petty streams and nullahs, which do not demand particular description.

There are 3 Post Offices on the Hills, the chief one at Ootacamund, where the Post-Master of the district resides, and one at each of the inner stations, Coonoor and Kotergherry.

Owing to the great number of Europeans congregated on these Hills, the duties of the Postal Department are very onerous and extensive, especially as in addition to the management of the mails, it devolves upon the Post-Master to station Dâk palanquin bearers for all travellers requiring them for the ascent of the various Passes.

The Madras mail travels by the most direct route, *viz.*, that through Salem, Errode, and Matepolliene, and reaches Ootacamund in favorable weather in 81 hours, the distance being 332 miles. Separate bags are made up for the two minor stations, which are detached at Coonoor, and the Kotergherry bag sent to that station by the cross road, there being no tappal runners employed on the direct road from Ootacamund to Kotergherry. Letters from this latter station have, therefore, to be sent *viâ* Coonoor, if destined for stations, the routes to which lie through Ootacamund, but if for Madras and the southward, they are sent direct from Coonoor.

The mail from Calicut travels by the road across the Koondahs, ascending the Sispara Pass from Wandoor and Cholakull. As the Peninsular and Oriental Company's steamers now touch regularly at Calicut on their voyage to and from Bombay and Ceylon, bringing an English Overland Mail each way, this Mail has become one of the most important of all, and is one of the best carried in spite of elephants and other impediments at the foot of the Hills.

It reaches Ootacamund from Calicut in favorable weather in about 31 hours, the distance being about 104 miles, of which fully 50 are over hilly and difficult ground. It was the custom, until the erection of the timber bridges alluded to as having been recently thrown over the two great streams on the Koondah line, to take the runners off it, and post them along the Neddiwuttum and Goodaloor road as soon as the S. W. monsoon set in, and continue them there until the rainy weather had ceased, when they were restored to the Koondahs. But this system, which caused much inconvenience, has now been altogether abandoned, and the Koondah road continues open from January till December without interruption.

The Cannanore Mail travels through the Wynaad country by Manatoddy, and comes up the Hills by the Goodaloor Pass to Neddiwuttum. By this Mail Bombay letters, sent by the Ceylon Government Steamer, are received, as that vessel touches at Cannanore on her voyage down with a Government Mail.

All the Northern Mails come by the Seegoor Ghât, through Bangalore, including that from Calcutta, which reaches the Hills in 15 to 16 days. The Southern Mails, from Madura, Tinnevelley, &c., come through Coimbatore and by the Coonoor Ghât.

The total number of Dâk-runners, or Mail-carriers, entertained on the establishment of the General Post Office of the Neilgherries, is 26, of whom 20 receive Rupees 7 per mensem, and 6 only Rupees 5, being employed below the Ghâts, where provisions are cheaper, and warm clothing not required.

Their distribution is as follows :—

10	runners	on the	Madras	road.
8	"	"	Mysore	"
4	"	"	Calicut	"
and 4	"	"	Kotergherry	"

- In the Dâk, or Palanquin Bearer's Dept.  
1 mistry at Rupees 10 per mensem  
and 28 bearers „ „ 7½ „ ditto

are retained on permanent Government pay, with an annual allowance of a suit of warm clothing; and when employed by travellers, in pursuance of an application to the Post Master for their services, they are charged for at the rate of 12 annas per mile.

The following is a statement of the entire establishment of the Post Office Department entertained on the Neilgherries :—

At Ootacamund, 4 writers and 4 letter-carriers	
„ Kotergherry 1 „ and 1 „ „	
„ Coonoor 1 „ and 1 „ „	
with 26 runners,	
and 1 Post Master, Superintendent,	
Total abstract drawn monthly	Rs. 484

The net Revenue of the Post Office for the year ending 31st December 1847, after deducting abstracts for the year, amounted to Co.'s Rs. 12,953-12-5

In addition to the land tax or assessment already fully described in the Table at page 29 the quit-rent on lands held by Europeans and the tax on the Todars' buffaloes, described at page 46 may be enumerated; the excise or tax on arrack, sold on the Hills, which is collected by farming out the monopoly of the right of selling the spirit, as is customary in all districts under this Presidency; and the “Koopooverrey,” a municipal tax levied by the cutwal on all house-holders in the bazars of the Cantonment for the maintenance of a department of scavengers, &c., for keeping the streets clean.

Sources of revenue and produce  
of each tax.

The following is a statement, showing the gross amount of  
Revenue derived from each source referred to in this memoir:—  
viz. in 1847

Assessment on lands from Burghers, &c., including Todars' buffalo tax,	Rs. 9,569
Quit-rent on lands of Europeans...	2,820
Arrack contract sold for...	16,300
Koopooverrey or scavengers' tax, surplus after expenses...	300
Rent of a shop in the bazar belonging to Government...	24
Fines levied in the Police Court ..	875
Stamped Paper and Transfers...	126
Post Office Revenue ...	12,953
District Postage realized...	164
Total	Rs. 43,131

The following is a Statement showing the expenditure on the Hills :—

	Tehsildar	...	...	...	...	...	...	Per mensem	Rs.	50	0
	Cutwal	...	...	...	...	...	...	do.	"	42	0
2	Gomastahs @ 10-8	...	...	...	...	...	...	...	"	21	0
1	Peishcar's Gomastah	...	...	...	...	...	...	...	"	5	0
1	Peishcar	...	...	...	...	...	...	...	"	17	0
1	Shroff	...	...	...	...	...	...	...	"	7	0
5	Duffadars	...	...	...	...	...	...	...	"	41	0
63	Peons	...	...	...	...	...	...	...	"	317	8
2	Ferryman at Pykara	...	...	...	...	...	...	...	"	12	0
	Stationery	...	...	...	...	...	...	...	"	19	8
3	Gomastahs (Moonsiff's and Magistrate's Departments)	...	...	...	...	...	...	...	"	46	0
2	Inferior do.	...	...	...	...	do.	...	...	"	24	0
14	Peons do.	...	...	...	...	do.	...	...	"	70	0
	Stationery	...	...	...	...	do.	...	...	"	20	8
1	Head Writer	...	...	...	...	do.	...	...	"	42	0
1	Conicopolly Commissariat Department	...	...	...	...	...	...	...	"	21	0
1	Bundy Duffadar	...	...	...	...	do.	...	...	"	7	0
5	Bundy Drivers	...	...	...	...	do.	...	...	"	28	12
1	Mistry	...	...	...	...	Engineer Department	...	...	"	14	0
1	Conicopolly	...	...	...	...	do.	...	...	"	14	0
1	Road Serjeant, extra pay	...	...	...	...	...	...	...	"	20	0
1	Mistry for Road Department, temporary	...	...	...	...	...	...	...	"	7	0
12	Peons in charge of public bungalows	...	...	...	...	...	...	...	"	70	0
1	Serjeant employed in the Staff Department, extra pay	...	...	...	...	...	...	...	"	27	8
	Commanding Officer and Joint Magistrate	...	...	...	...	...	...	...	"	400	0
	Church Establishment, 1 Chaplain	700	0								
	1 Clerk	17	8								
	1 Sexton	10	0								
	2 Peons	12	0						"	739	8
	Per mensem, Total Rs.	...	...	...	...	...	...	...	"	2,083	4

The land tax or assessment on cultivated lands is collected by the Tehsildar and Peishcar, who make a progress through their respective divisions, accompanied by the Gomastahs and Sebundy Peons, and collect it according to the rate fixed by the Gomastahs on inspection of the state of the crops on the land.

The excise duty on arrack is collected by a sale of the privilege to one individual, from whom the amount is received without further trouble to the Government functionaries.



The quit-rent is collected upon bills sent to each land-holder, signed by the Collector, and the amount received by the Gomastah who attends with the document.

The "Koopoverrey" is collected by the Cutwal, as already stated.

All fines levied for misdemeanour in the Tehsildar's or Magistrate's court are paid into the Talook Treasury.

The receipts of the Post Office, after deducting the amount of the monthly abstract for the pay of the office establishment, are paid into the Talook Treasury.

The District postage is received from parties sending letters to Seegoor and other places in the Talook to which no regular Mail is sent from the Post Office.

The principal Collector visits the district once a year on Jumabundy, when the Revenue accounts are settled for the past year, and all complaints of over-assessment examined into and adjudicated.

The total number of Peons employed in the collection of the Revenue is 43, with 3 Duffadars and 3 Gomastahs. The Peons and Duffadars are also available for general Police duties under the orders of the Tehsildar, who, next to the Joint Magistrate, is the head Police Officer of the Hill district.

History and Antiquities. The utmost obscurity hangs over the early history of the Neilgherry Hills, for beyond the period of the immigration of the Todars or Todawars, tradition amongst the present inhabitants affords no clue whatever to trace it. That they have been in former ages inhabited, and that by a very peculiar race, evidence sufficient to show is furnished by the existence of the numerous "Cairns," or rude tombs found upon the summits of almost all the loftier mountains in every part of the Hills, the origin of which is so remote, that the Todars, who are recognized as the most ancient inhabitants, have no tradition amongst themselves bequeathed by their ancestors, which even guides us to a surmise as to the race of people by whom they were constructed.

As affording thus almost the only land-marks by which speculation as to the ancient state of this remarkable region can be guided, these "Cairns" seem to merit a brief description.

They are invariably situated, as has been already mentioned, on the highest summits of the Hills, sometimes single, but more frequently in groups or rows of from 3 to 6. They are circular in form, raised with large unhewn blocks of stone, 4 feet or more above the level of the ground, and varying in diameter from 12 or 15 feet to 25 or 30. The interior is hollowed out to some depth below the original surface, usually until the solid rock is reached, and the space thus cleared filled with earthen pots with the covers strongly luted on, pieces

of bone, charcoal, and fragments of pottery, all tightly packed in a soil so black and finely pulverized as to give cause to suppose it to be decomposed animal matter.

On breaking these pots or urns, which many of them are in the form of, they are found to contain ashes, charcoal, and pieces of half calcined bones; with sometimes a small quantity of a pure scentless fluid, which, in two instances, I found to be pure water, slightly impregnated with lime. Images of tigers, elk, bison, leopards, and some domestic animals, pieces of half-decomposed bronze, resembling spear heads, tripods, &c., are also found occasionally mixed with the other remains; but it is a singular fact that, on breaking up the strong pavement of slabs of stone with which the Cairns are covered in, and mining down until a second pavement is come upon, which, from its tightness and weight, has, to all appearance, never been disturbed since it was first laid, we find, on removing it, that the contents of the vault below, instead of being laid in the order befitting the repose of consecrated ashes, are generally smashed and broken up and mixed with the soil, leaving barely one or two pots of bones and ashes entire, just as though the pickaxe of the destroying explorer had been already there. Some ingenious writers have endeavoured to build up upon the evidence of these Cairns, a theory to the effect that, their constructors must have been a tribe of the ancient Scythians, who, having wandered into this remote part of Asia, preferred a settlement on the Hills they had discovered, to the hopeless undertaking of a return, and pursuing their hypothesis, and discovering instances in the customs and habits of the present Todars, which assimilate them to the race which history describes under the name of Scythians, they pass on to the conclusion that their ancestors were the founders of these tombs, and the descendants of the ancient Scythians. But this assumption is, in my opinion, erroneous.

So prejudiced and bigoted a race as the Todars would naturally cherish with the utmost veneration and solicitude any vestiges of mortality which their most vague tradition should point to as monuments of their ancestors; and therefore, when we find them offering not the slightest objection to the Cairns being broken open and their contents rifled, and even voluntarily guiding strangers to unexplored ones, and aiding them in the work of destruction, it is reasonable to conclude, that they form no link of communication between the present race of Todars, and any tribe of people by whom these singular monuments may have been raised.

All clue being thus lost, it would be idle to follow out further any speculation as to the history of the Neilgherries, prior to the first coming to them of the Todars, for as no coins or inscriptions, or even hieroglyphics have been found in any of the Cairns, or on their contents, there exists no evidence whatever by which enquiry could be guided into the right course:

With the Todars then commences the only known history of the Neilgherries.

At the time of their immigrating (say their traditions) they found no aboriginal inhabitants settled on them, and seeing in the solitary grandeur of the mountain region which they had discovered, a fitting spot for the undisturbed exercise of their singular religion and peculiar pastoral habits, for which they had probably endured persecution amongst the tribes of the plains, they determined on permanently occupying it. Ages, according to their belief, must now have passed, while they remained in undisturbed possession of the Hills, extending over such a space of time, that some of them express their belief that the founders of their tribe were born on the Hills, indigenous to the region, until at length a small band of Kothers found their way up from the plains, and craved permission to till certain tracts of land which they indicated. From this era may be said to have commenced the self-arrogated sovereignty of the Todars over the land forming the plateau of the Neilgherries, as conceding the privilege sought for by the new comers, they stipulated that a certain proportion of all the grains which they might produce from the soil should be annually presented to them as "goodoo," or tribute, in acknowledgment of their feudal right over the territory.

Not long after this, and according to their traditions, 3 or 4 centuries ago, a party of Burghers or Buddaghurs emigrated from the "North country" (probably the Northern part of Mysore) and came to the Neilgherries, and being good cultivators, at once perceived the advantages offered to them in the virgin and rich soil which they saw on all sides. They accordingly appear to have obtained permission to settle and cultivate land upon the same terms as those granted to the Kothers, and inviting more of their brethren to join them, they soon swelled into a numerous tribe, and spread over the Hills, constructing their villages, and enclosing their fields (and doubtless, clearing away much forest) in all directions.

I can find no evidence of any sovereign ruler having been acknowledged amongst the Hill people, until about a century before the reign of Hyder Ally in Mysore, where, according to the tales of the Kothers and Burghers, there were three Princes or Chiefs who had sway over them, one in Todanaad, who resided in a fortress called Mulleycutta, the walls and ditch of which still exist on a Hill to the eastward of the village of "Shoolooroo," and westward of Mootenaad and the Seegoor Pass (*vide* sheet of Map); one in Megkenaad, in a fortress, the ruins of which are now called "Hoolicul Droog," situated on a lofty ridge overlooking the Coonoor Pass, and a third in Panengenaad, in a fort, the site of which it still pointed out near Kotergherry and called "Konagerry," though no vestige of a fort remains now recognizable.

Their traditions state that, at this time, in consequence of disputes between the Burghers and Kothers regarding their respective boundaries, a general settlement of their lands took place, under the auspices of the three Chiefs, when the lines of demarcation were definitively fixed, and though only by oral indication in consequence of the ignorance of reading and writing, which then, as now, prevailed, the limits of the territory of each tribe were so distinctly identified, that ever since up to the present time, no disputes about them have ever been known to occur. What became of these three Chiefs cannot be guessed from their traditions, but it seems probable, that Hyder Ally, having sent emissaries to lay the Hill people under contribution, had his attention called to the value of the territory both as a

producing district, and as a strong fort from which he might harass his enemies in Malayalum and Coimbatore. He accordingly appears to have seized upon two of the three forts which commanded the passes to those countries, *viz.*, Hoolical Droog and Mulleycotta, and having deepened their ditches, heightened their walls, and otherwise strengthened them, he put strong garrisons into them, which both controlled the Hill tribes and observed and harassed the kingdoms below them. This tradition is borne out by the present appearance of these two forts, which, although partially ruinous, yet retain sufficient evidence of comparatively modern occupation, while the third (Konagerry) has become entirely obliterated. With Hyder, the system of taxation must first have commenced on the Hills, and the imposts levied both by him and by his son Tippoo on the mountaineers, must have been very severe. Old inhabitants, who have a clear recollection of those times through the tales of their fathers, and an imperfect one through their own retrospect, state that whole villages used to be despoiled of their year's grain and fodder by Hyder's officers, who made incursions continually amongst them, and forced the villagers to carry their own plundered property down the face of the Hills to Danaikencotta, where the Mysoreans had a strong fort and an extensive magazine.

Hence to the Hill tribes the overthrow of Tippoo, and the transfer of their territory to the East India Company, was a change fraught with the most beneficial results, and I imagine the tranquillity and security which they have ever since enjoyed, have rendered these people a portion of the most contented of the host who now acknowledge the Honorable Company's sway.

With the exception of the buildings erected along the various lines of road for the accommodation of travellers, the public buildings of this district are chiefly congregated within the limits of the cantonment of Ootacamund. They consist of—

1. A Public Office, containing the Magistrate's and Commanding Officer's establishments, the Pay Office, Post Office, and rooms for the security of property in the charge of the Magistrate and Commanding Officer.
2. A Church, very substantially built, with a sufficiently extensive burial-ground attached, with vestry-room, &c.
3. A Dispensary: a tiled building, commodious within, but requiring more godowns.
4. A Jail; so called, because when convicts used to be employed on the roads in the Cantonment, they were quartered in sheds erected in the compound attached to this building. It is at present unappropriated and useless, which is a pity, as it is one of the most substantially built houses in the settlement, having been originally designed and occupied as quarters for sick Officers.

5. A Choultry or Caravanseraï for the accommodation of Native travellers, situated in the main bazaar, near an open spot, on which the weekly market is held, and which is about to be occupied by a covered market-place, to be built at the expense of Government, and which is much needed to afford shelter in the rainy monsoon to the market people, from the low country, and their goods.
6. A Gowkhana, or building for the housing of the Government cattle employed in bringing gravel for the Cantonment roads, for which purpose 5 bandies and an establishment costing Rs. 56-12 per mensem are kept up.
7. A Cutwal's Choultry, for Police purposes, having a lock-up house attached, for the safe custody of prisoners.
8. A Tehsildar's Cutcherry, for the usual purposes of Revenue, &c.
9. A Meteorological Observatory, erected at the expense of Government, on the summit of Dodabetta, in which the meteorological instruments, lately sent out by the Honorable Court, are deposited.
10. A Traveller's Bungalow at Pykara.
11. „ do. do. „ Neddiwuttun.
12. „ do. do. „ Kulhutti.
13. „ do. do. „ Coonoor.
14. „ do. do. „ Foot of the Koondahs, called the "Avalanche."
15. „ do. do. „ Summit of Koondahs at Sispara.
16. „ Chettrum for natives at Punganaad.
17. „ do. „ do. „ Coonoor.
18. „ do. „ do. „ Avalanche.
19. „ do. „ do. „ Sispara.
20. „ do. „ do. „ Koondahs in the long valley.
21. Chettrum at Wullakadoo in the Sispara Pass.
22. Do. in the Kaitee Valley.
23. Do. at Burliar in the Coonoor Pass.
24. Do. „ Kulhutti in the Seegoor Pass.
25. Do. „ Aravungaad on the road between Coonoor and Ootacamund.

These Chettrums are almost all new buildings with substantial walls, roofs of tiles, and doors and windows, but so singular are the ideas of the natives regarding accommodation for themselves, that they prefer passing the night in little thatched huts built by wayfarers, and seldom use the Chettrums except to cook their food in.

The Bridges have been already enumerated under the proper head.

J. OUCHTERLONY, *Captain,*

*Supdt., Neilgherry Survey.*

KOTERGHERRY, }  
1st March 1848.

## ADDENDA.

In connection with the subject of "Beer," alluded to in the foregoing Memoir, I am  
 Hops. happy to be able to add that my anticipations regarding the  
 success likely to attend the establishment, by Government, of a  
 depôt on these Hills for the manufacture and supply of this article to the European troops,  
 have been much strengthened by a confident opinion which has been expressed to me by  
 Mr. McIvor, the Superintendent recently appointed by the Hon'ble Court to take charge  
 of the Botanical Garden at Ootacamund, that Hops will thrive and become highly pro-  
 ductive, under proper treatment, on the Neilgherries. Mr. McIvor gives a preference to  
 situations enjoying a somewhat milder climate than that prevailing at Ootacamund, and has  
 pronounced the land in the vicinity of Kotergherry, and the Eastern portion of the plateau  
 generally, very suitable for Hop cultivation. I have, therefore, in order to test this import-  
 ant project, caused a piece of ground, selected by Mr. McIvor, to be prepared for the  
 purpose, in the hope that the Hon'ble Court may be pleased to order good Kentish Hop  
 seed to be sent out for trial.

I may also take occasion to add, that the representations which I have hazarded in the  
 Wheat and Barley. preceding part of this Memoir, regarding the suitability of the  
 soil and climate of these Hills for the economical production of  
 Wheat and Barley of a very superior quality, as well as of every description of English  
 Farm produce, are fully confirmed by the opinion of the same competent authority (Mr.  
 McIvor), whose anticipations of success in farming operations of every description, if un-  
 dertaken by competent agriculturists, on the Neilgherries, go even beyond those which I  
 have ventured to express.

J. OUCHTERLONY, *Captain,*  
*Supdt., Neilgherry Survey.*

OOTACAMUND, }  
 9th May 1848.